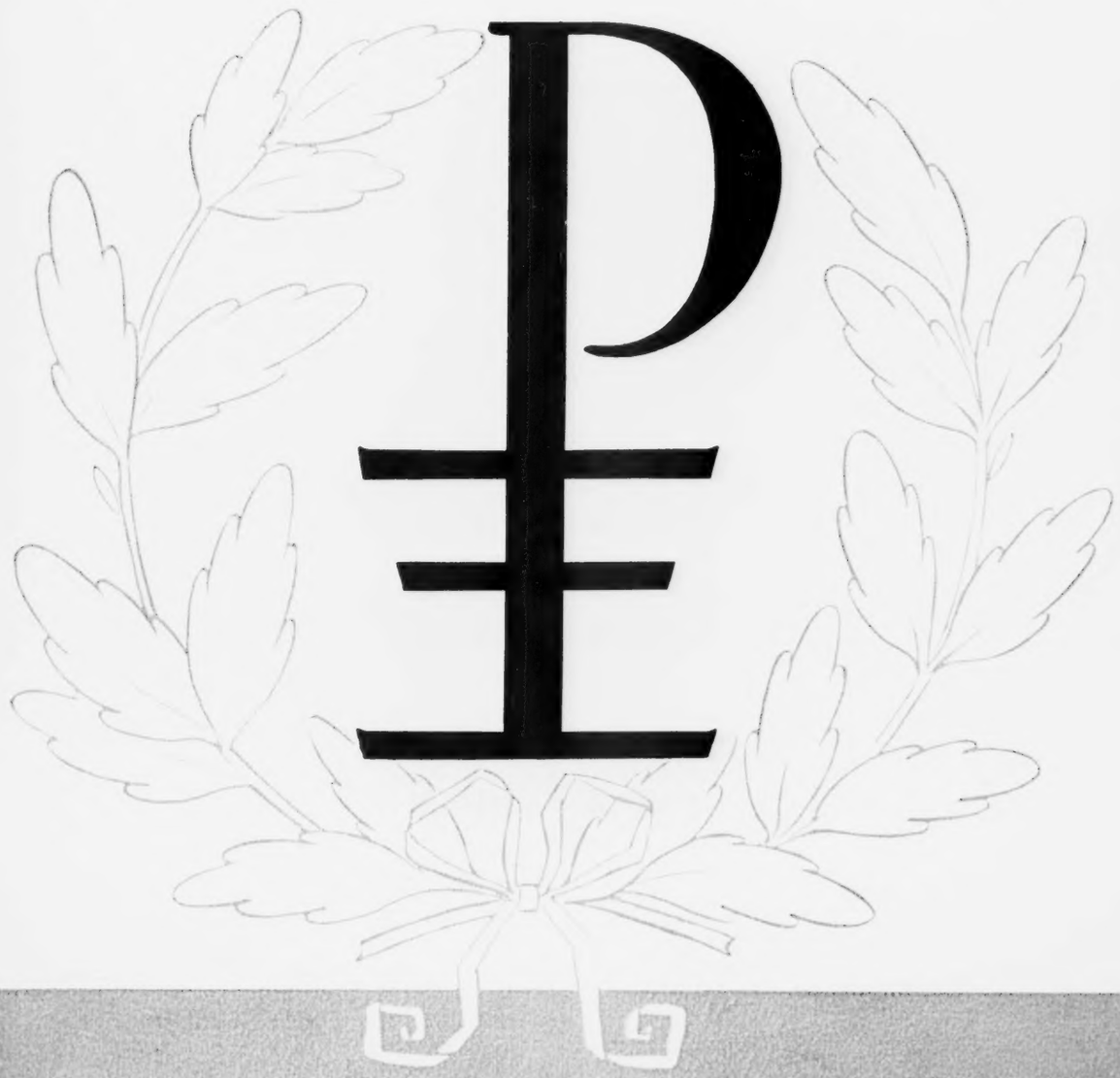

PRINTING EQUIPMENT ENGINEER

JANUARY • 1934

A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies

ADVANCED MECHANICAL FEATURES DISTINGUISH

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ALSO . . . Alloy steels are used extensively to strengthen and lighten parts.

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Cylinders are solid steel forgings.

This summary of the features of The Goss High Speed Anti-Friction Press is necessarily incomplete. Full details and specifications will gladly be supplied to any one considering the purchase of equipment of this type.

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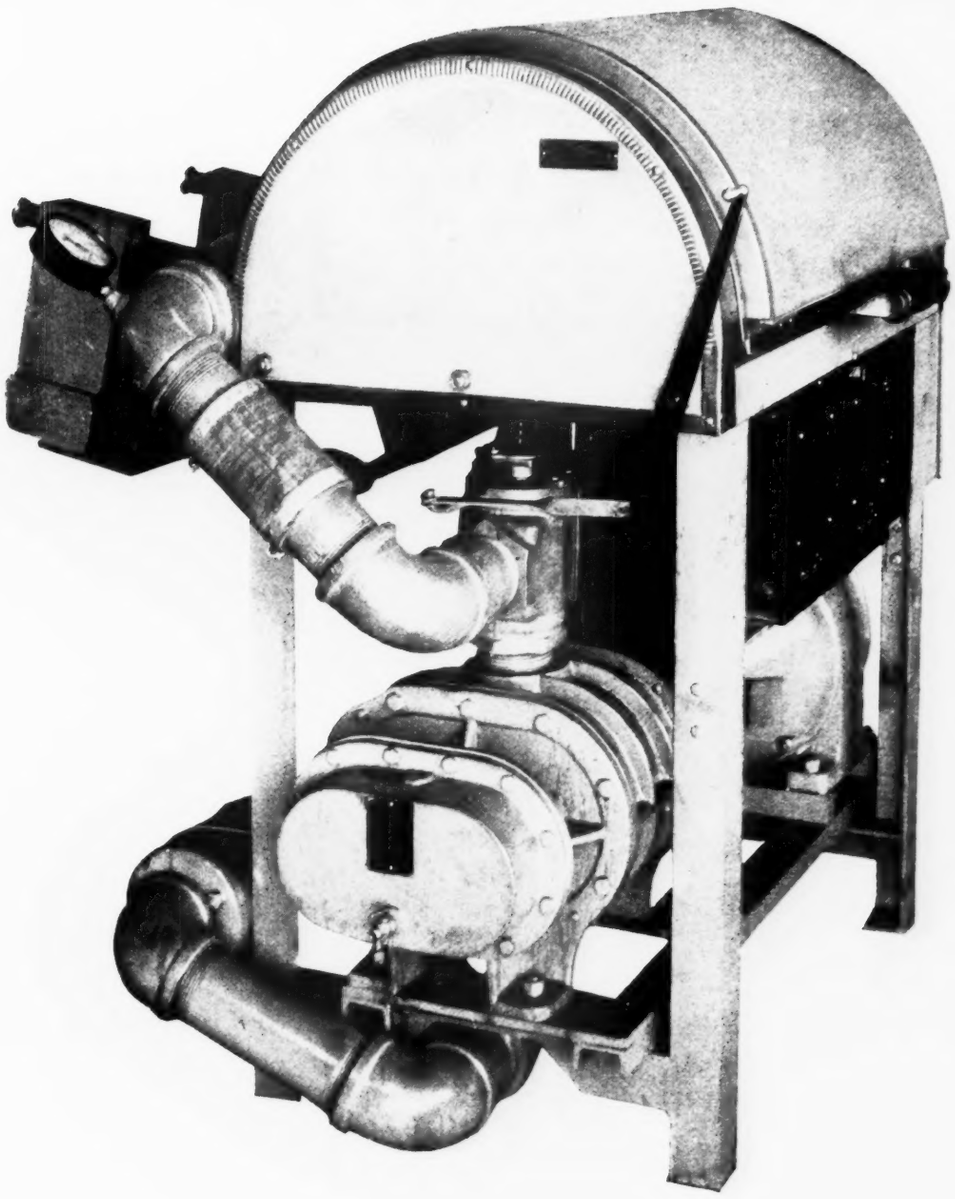
THE COURIER-JOURNAL TIMES



The *Louisville Courier-Journal-Times*, after a thorough investigation of The Stahi AUTOFORMER, in the plants of other newspapers, have placed their order; based on the machines own story of its own performance. With the trend towards higher quality printing, The Stahi AUTOFORMER is the starting point. Uniform Casting Levels, reflecting Uniform Printing Levels.

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Edited by
MAC SINCLAIR

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Printing Equipment Engineer

Volume 47 *Number 4*

January 1934 Contents

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Share Your Knowledge With Others

The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use.

Place a check mark in each square for attention of the department head or assistant whom you wish to look over special articles in this issue.

☐ *Production Manager*

☐ *Mechanical Superintendent*

☐ *Composing Room Superintendent*

☐ *Chief Composing Room Machinist*

☐ *Monotype Department*

☐ *Photo Engraving Department*

☐ *Foreman Lithographing Department*

☐ *Superintendent Stereotype Foundry*

☐ *Superintendent Electrotype Department*

☐ *Superintendent Press Room*

☐ *Bindery Foreman*

☐ *Manager*

☐ *Purchasing Agent*

It's Easier to Dial The Operator

SURELY it would be easier for the blindfolded person to get the correct number by executing the one dial movement necessary to obtain the telephone operator's assistance than by attempting to finger out P E 6 - 7 8 6 1.

Correct composition is obtained more easily, too, when linecasting machine operators are working with matrices which they can read.

Operators who attempt to verify their assemblies of ordinary brass matrices are as handicapped as blindfolded persons who try to dial telephone numbers. But it no longer is necessary to so handicap operators—nor to waste 12% of their time in error correcting.

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Matrix Contrast Corporation

Empire State Building New York City

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PRINTING
EQUIPMENT
ENGINEER

January, 1934

Dry Mat Standardization

By DRY MAT BILL

I HAVE been requested by the editor of PRINTING EQUIPMENT ENGINEER to write a few lines expressing an opinion on the practicability of Dry Mat Standardization from the viewpoint of the layman.

Many, many stereotyping executives are highly interested in the proposal of the A. N. P. A. Mechanical Conference which has designated a committee to seek ways and means for standardizing the specifications for dry mats into a minimum number of sizes as well as to regulate the specified variations in moisture content. This is a worthy endeavor since it originated among mechanical executives (superintendents and stereotypers) who are not only interested in improved technique but are also eager to save money for their employers through reduction in the price of materials.

I am somewhat at a loss to offer any constructive suggestions as to just how to proceed to standardize so that savings, however small, could be made for the publisher. I do not hold for myself any brilliance of perception but am fortunate in having been permitted to take a peep at the production problems of several American dry mat makers.

On the other hand, I will offer a few humble remarks as to why practical standardization would be difficult:

1. It would be necessary for newspaper equipment to be standardized to a minimum number of page sizes.
2. Manipulation by stereotype crews would have to be standardized. This is probably one of the greatest obstacles.
3. The properties of mats would have to be the same.
4. Stereotype equipment would necessarily have to be standardized.

Let's discuss one or two of these important points.

Take the first. It can be understood readily that if newspaper pages were all the same size, mat production would be more efficient due to savings in raw materials, susceptibility to more uniform mechanical operation and manipulation, wrapping, boxing, and so on.

In the balance of the items, one can go into ten different plants and find ten different conditions and methods of mat manipulation. Especially with reference to Item No. 2 above, the human element enters into the picture to an appreciable extent.

I will wager that if you were to go into two newspaper plants in the same city, equipped with practically the same type of stereotype equipment that you would find in one plant the "Z" mat is very well thought of, while the "Y" mats are no good. In the other plant the "Y" mat is used with great success and the "Z" mat is impossible as to its workable qualities.

Why is this?

Well, let's investigate. We find that in one plant the press has rubber rollers, hard blankets and light impression. The stereotyper makes plates using a hard cushion combination which causes a certain amount of stretch in the mat. This may cause distortion in the "Y" mat but not in the "Z" mat, which is due to its different texture. Now, moisture content also enters to some extent. A stretched mat needs more moisture to obtain the same shrinkage than one that is not stretched. A quickly scorched mat does not shrink the same as a slowly dried mat. This will be understood readily by the practical stereotyper.

Now, the boss stereotyper in the other plant finds the "Y" mat meets his conditions. The pressman uses

Continued on page 24

Composing Room Saw Maintenance

Machinist Into Whose Care the Saws Have Been Given Should Make Allowance for Operating Difficulties

By MAC SINCLAIR

PROBABLY no piece of mechanical equipment receives more erratic or severe usage than the composing room saw. Printers employed at composition, in the makeup or in the ad room regard the saw as a means to an end—they are interested only in what the tool will do for them, and in most cases have no thought about the finer points of its maintenance. This condition is probably as it should be for, after all, the main essential of composing room practice is to produce the typography at hand. It is therefore imperative that the saw be kept in the best condition to obtain the utmost in cutting qualities.

The machinist, or the person into whose care the saws have been committed, should make due allowance for the mechanical shortcomings of the operators. All those using the saw, however, should be fully conversant with its limitations. It is an important matter that apprentices be instructed in the proper use of saws. Carelessness in putting unsuitable materials through a saw may cause considerable trouble. A dull saw is an abomination. One pass of an electrotype containing a steel fastening nail may undo about 20 minutes of painstaking work upon the part of the one who has sharpened a saw blade.

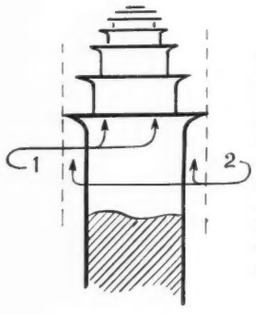


Fig. 1.—On a composing room swaged saw, the cutting is done entirely by the tips of the teeth as indicated at 1. When the teeth have been filed several times, the swage or clearance 2, will disappear. The saw will commence to collect type metal on the sides of the blade through frictional contact with the slugs or type metal which is being cut. It will then be necessary to "gum" the blade to remove the type metal. This condition should not be permitted to occur in any composing room.

Many printing firms take advantage of the services afforded by those who specialize in sharpening saws. These specialty companies, having automatic machinery, do the work at reasonable prices. Printing firms employing this method of saw sharpening and who are without the services of a printer who is competent to care for saws, feel that the problem is solved satisfactorily, since a sharp saw can be applied to the spindle and the dull one mailed to the saw-filing plant in the same carton in which the sharp saw was received.

SWAGING AND FILING THE BLADE

Swaging and filing a saw blade by hand requires considerable skill. The skill of swaging saw teeth correctly lies in balancing the swaging tool properly on the tip of each tooth and without tipping the swaging tool towards either side of the blade, exactly in the same position as the preceding tooth. Likewise, the hammer blows upon the swaging tool must be constant in order to burr each tooth tip the same amount, so that after filing, each tooth will have the same width cutting edge. While swaging a saw, a light hammer should be used, preferably one weighing not over 4 or 5 oz. In order to secure the maximum burring effect, strike the swaging tool a snappy, springy blow.

In preparing to sharpen a saw where the hand filing method is employed, note whether any of the teeth are low in relation to the other teeth. If some of the teeth are found to be low, joint the saw by holding a stone against it while in operation.

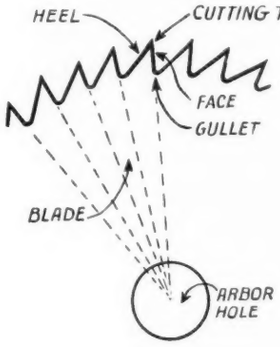


Fig. 2.—Names of the various portions of a circular metal-cutting saw blade. Note that in the diagram the cutting face of the saw tooth runs on a radial line from the center of the blade. While some composing room machinists prefer to have the tooth line run a little to the left of center, it is probably best to adhere to a true radial line, or tip the cutting edge line of the tooth slightly to the right of the saw center, when the saw teeth face the right as shown in the diagram.

If the tips of the teeth are rounded or very dull, it is best to file the saw previous to swaging, in order to avoid liability of splitting off a tip of the swaging tool while burring the teeth.

A saw blade may be swaged while it is mounted upon the spindle, it may be placed between suitable blocks in the jaws of a bench vise, or it may be put between special iron blocks to be shown later on. It is quite important that the saw blade be given a solid support against the impact of the hammer blows.

While learning to swage a saw, the beginner's hammer blows vary considerably in force. If an occasional tooth does not burr as much as the adjoining teeth, due to irregularity of the hammer blow, it is best to pass that tooth. Striking a tooth repeatedly may distort its shape by making the cutting tip of the tooth too wide and too low.

(Continued next month)

Subscriber Class Created for Mechanical Department Bulletin

At the suggestion and recommendation of the mechanical committee, A. N. P. A. authorities have established a subscription price for the *Mechanical Bulletin* which is edited by Walter E. Wines, manager of the mechanical department. The price for a yearly subscription is $3.00. Single copies are 25 cents each.

The purpose in fixing a subscription price is not to establish a market for the *Mechanical Bulletin* but is intended to put its distribution on a business basis. So many inquiries have been received from machinery manufacturers and those in the newspaper supply business that all requests could not be acceded to on a gratuity basis.

The inclusion of this class of non-members who wish to subscribe to the *Bulletin* for technical purposes does not include non-member newspapers. Newspapers wishing to receive the *Mechanical Bulletin* should join the American Newspaper Publishers' Association.

Joint Committee to Make Color Recommendations

The A. N. P. A. mechanical committee met in joint session with the A. A. A. A. committee in New York, N. Y., on December 6, for the purpose of considering various items in connection with the printing of color advertising in newspapers. Some technical questions discussed were standardization of colors, the location of plate register marks, the desirability of a standard screen and proofs from agencies. It was decided to submit a questionnaire to member newspapers in reference to these details as well as another questionnaire to the agencies asking further information on these points.

After the questionnaires have been received and tabulated, another meeting will be held to consider making definite recommendations with respect to agency practice and newspaper practice in the handling of color advertising.

Informal Technical Discussions

THROUGH sheer necessity the mechanical executive devises methods or mechanisms to help eliminate production problems. Most mechanical executives are willing to pass on to others details of production helps, either executive or mechanical.

As has been stated before in these columns, his responsibilities make the mechanical executive a very busy man. For this reason he dislikes time-consuming formality which might sometimes interfere with telling the story to others. While you are in the mood just reach for the old pencil and any kind of paper (white waste, proof paper or memo pad) and tell us about it in your own way. We will gladly prepare it for publication in PRINTING EQUIPMENT ENGINEER. Expressions by readers indicate that they appreciate these suggestions from our mechanical executive friends.

In looking over this issue take note of the Rindsberg-Weiskittel, fixture for boring newspaper printing press plain cylinder bearings and the Schweida adaptation of a hypodermic needle for the purpose of applying clock oil to linotype-intertype keyboard cam yoke bearings.

Mac Sinclair

Editor.

Press Speed Control for Profit

Mr. Weed Discusses Advantages of Synchronizing Press Speeds with Profit Factor in Commercial Work

By RAY M. WEED*

As Told to Francis A. Westbrook†

EVERY commercial printer is acquainted, of course, with the many variable and constantly changing factors encountered in the production of many classes of printed matter, ranging from business cards to four-color process booklets, broadsides, etc. No two jobs are ever exactly alike. Each is made to order—"custom tailored," as it were.

For each different job there are variations in size, shape and weight of stock, in the drying properties of

Ray M. Weed, Manager of Weed Printing Company, Columbus, Ind., formerly Atery-Weed Printing Company.

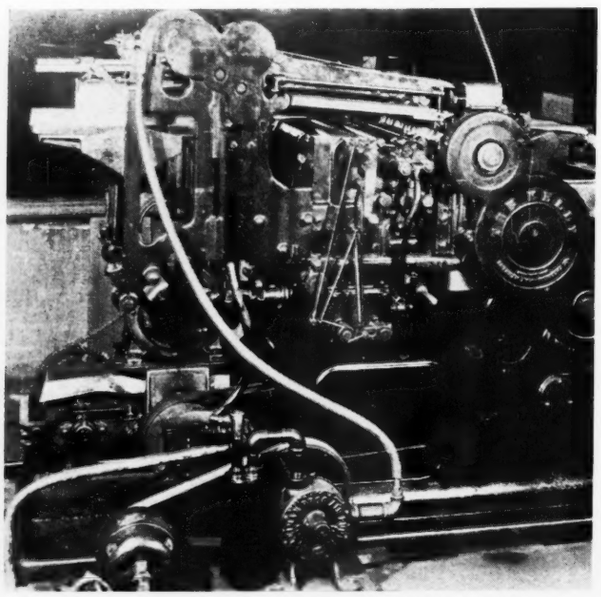
the inks, in temperatures and climatic conditions and often in the skill of the pressmen. The variables tend not only to disturb uniformity of quality, unless some provision is made to compensate for them, but they also often make it impossible, on closely figured jobs, to get the production which must be secured to earn a profit.

From our experience in operating a shop of moderate size we find flexible speed control of presses a basic factor in enabling us to overcome these disturbing elements, and to figure and produce a job at a profit. Our two platen presses and our Kelly press are equipped for flexible, infinite speed control, the platens with variable speed motor pulleys and the Kelly with a variable speed transmission. Thus by simply turning a handwheel the pressman may obtain any desired speed within

*Weed Printing Company, Columbus, Ind.
†Mechanical Engineer, Center Conway, New Hampshire.

the limits of the range of the speed control units—3:1 on the motor pulleys, and 6:1 on the transmission.

In addition to permitting this wide speed variation the control units have other advantages. That is, the speeds can be changed while the press is in operation without interrupting production, the speed control is independent whether the electrical service is a.c. or d.c., the power is transmitted without slippage at very little loss or maintenance charge and in many cases the cost of the variable speed unit is soon earned in savings. A concrete example of this will be given later.



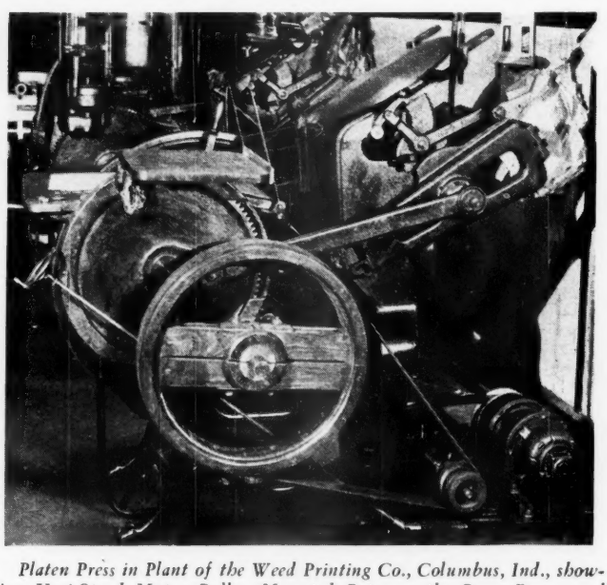
Kelley Press in Plant of the Weed Printing Co., Columbus, Ind., Equipped with Reeves Variable Speed Transmission Shown at Left Side of Picture. During a Test Run on a Miehle Press Equipped with Variable Speed Pulley, on the Basis of 100,000 Impressions, as Against a Press Not so Equipped, a Saving of a Full Day's Run Was Realized.

The importance of accurate speed control becomes evident when it is considered that no more than 10 additional perfect impressions per minute mean nearly 5000 more in an eight-hour day. However, profitable operation does not depend necessarily on high speed so much as on the right speed for a given job. That is, maximum net production, which is gross production less spoilage, is largely determined by the means available for the pressman to regulate the press speeds so as to meet all the requirements of the job in hand. When this is done the printer secures the greatest net quantity of highest quality printing in the shortest time, and at the lowest overhead. As no two jobs are ever the same in all respects it is a great advantage to be able to exercise accurate control over the press speeds, and it is worth bearing in mind that the one best speed for the job can mean a slowing down as well as a speeding up. From this it is not hard to see that delicate adjustments of speed may easily mean the difference between losing money and making a profit.

This is well illustrated by the following example taken from a recent experience. Not long ago we were able to get the order for printing the covers of a house magazine because of our ability to slow down our Kelly press to a constantly uniform speed. The job was to imprint type and type ornaments on a heavy, sheet-metal-covered stock. Fast drying special inks were used but it was primarily because we could send the sheets through the press slowly enough to eliminate the necessity for slip-sheeting that we figured the job pretty close and got it.

On another job we squeezed out nearly 10% more profit than our usual margin because, after the job was on the press, we found exceptionally fine working conditions with respect to paper and inks made it possible for us to run at the rate of four hundred more impressions per hour than we had estimated. This was a four-color job on 100,000 pennants to be used for point-of-sale display by a large manufacturer of corn starch products. We had figured on running 2500 impressions per hour with safety, but by careful experimenting the pressman found that 2900 could be run. Such experimenting and the final setting for the best speed, would, of course, have been impossible without a speed control unit. It meant a saving of 3200 impressions per eight-hour day. In fact, the total saving on the job amounted to better than 11 hours, or considerably more than a whole working day.

For a long time only one of our two platens was equipped with these speed control units, or infinite speed control, as it is frequently called, because of the



Platen Press in Plant of the Weed Printing Co., Columbus, Ind., showing Vari-Speed Motor Pulley Mounted Between the Press Frame and Motor.

fact that any speed within the limits of the unit may be had. The other platen had a series of cone pulleys giving three fixed steps in speed. We had always considered this fairly satisfactory for our requirements. However, we were contemplating the purchase of a variable speed transmission for a large Miehle press which we then had in operation and, in order to be sure that the expenditure would be justified, we decided to make a test run on both platens—one equipped with a variable speed motor pulley, the other with the cone pulleys.

The test was made by using a standard business reply card which a customer had on order. Identical conditions were set up on each press; makeready was given careful attention for each form; wage rates were the same for each pressman; the stock was the same for both runs; the presses were of identical design; in fact every factor but that of variable speed control was made as uniform as possible.

The test was for a full eight-hour day. The operator of the platen which was equipped for infinite speed control started at the rate of 1500 impressions an hour (his total range was any rate between 900 and 2700 impressions an hour). A dozen different speeds between 1300 and 2500 impressions were tried before the one best speed of 2200 was established as giving maximum production with minimum spoilage.

On the other hand, the operator of the cone pulley-equipped press, beginning also at 1500 an hour, had a selection of only three other speeds, namely, 1750, 1900 and 2400 impressions an hour. At 1900 production was too low to earn a profit. But 2400 was too high because too much spoilage resulted. So a 1900 impression speed was set and the work done at that rate.

The result of this difference in speeds is worth giving careful consideration. On the basis of 100,000 impressions, the press equipped with a variable speed pulley realized a saving of a full day's run—a saving which we accurately computed at $16.50, counting the pressman's time, power consumption, interest on investment and other factors. This, of course, is only on one job, and we can safely say that this variable speed pulley has paid its cost twice each year since it was installed. Naturally the result of the test just outlined was the purchase of the variable speed transmission for our Miehle printing press.

In fact, our experience with these speed control mechanisms has been so happy that we are planning to equip an automatic folding machine with one of them. At present the speed of this machine is varied by a system of change pulleys of different diameters as called for by the different sizes and shapes of the pieces and by the number, shape and complexity of the folds. To obtain different speeds it is necessary to stop the machine and spend several minutes in changing pulley diameters. Even then we have command of only four different speeds. With variable speed control units such as are used on the presses all this lost time and production would be eliminated and in many cases a more economical speed would be available. Really accurate speed adjustment is very desirable on the folding machine for it is easily possible to run spoilage up to such a figure that the profit earned in composition and press work will be entirely wiped out and a loss established for the entire job.

Under the particular conditions existing at this time we find it much easier to maintain a fair margin of profit without greatly increasing the cost of the work to our customers by reducing the costs of production as described.

The Other Side of Newspaper Color

Extensive Experiments Will Resolve Into Demand by Advertisers for Color Without Additional Compensation

By GEORGE R. HOMER

WHAT are we going to do about color? This question is heard quite frequently nowadays in newspaper publishing circles.

The idea of color in daily newspapers is not new. Statistics compiled by *Advertising and Selling* and *Western Advertising*, both working independently, show that there are approximately 300 daily newspapers in the United States which are prepared to print advertisements in more than one color. Some of these offer one additional color and some offer two or more colors in addition to black.

Supplements in color and an extra color in the ordinary run of space have been used for quite a long time.

Other Side of the Question

So far as the mechanical executive is concerned, it is well that he have both viewpoints of any controversial subject, especially with reference to topics intimately associated with his means of livelihood. This article by Mr. Homer deals with both the business office and mechanical angles of color printing in daily newspapers.

Some time ago, Mr. Pancoast of the Hearst organization, raised a dissenting voice on the subject in PRINTING EQUIPMENT ENGINEER, *but since that time very few mechanical executives have pointed out any of the obstacles which would be encountered in attempting to proceed with process color in newspaper printing. Walter Ogden, superintendent of the pressroom, Cleveland* Press, *did point out the limitations of black-and-white press equipment as applied to register of color and production speeds in the August, 1933,* ENGINEER.

In an attempt to clear up some of the confusion which evidently exists in the minds of advertisers and laymen, although confusion obviously also exists in the minds of some publishers, this article will deal with the subject of tone color, or process color, in daily newspapers. That undoubtedly is what publishers have in mind when they speak of printing in color so as to compete with the magazines.

Taking it for granted that the mechanical obstacles still in the way can be overcome, it is my humble judgment that the publishers who are furthering the idea of process color in our daily newspapers are barking up the wrong tree.

I fail to find any evidence that advertisers have urged or are overly desirous for color in advertisements in our daily newspapers. It appears that some enthusiasts for color, who are only too willing to back their ideas with dollars, feel that they can get a larger share of the advertisers' dollar by introducing color in their papers. These publishers are underwriting extensive and expensive experiments to accomplish this.

DOUBT ABILITY TO PAY FOR COLOR

A survey was made in Germany in 1929 and reported in *Der Graphische Betrieb* in the April and May issues of that year. In this survey the largest advertisers in Germany were questioned, and the consensus of opinion of the large majority consulted seems to have been that while they were very much interested in the idea of using color in advertisements in the daily newspapers they doubted whether they could afford to pay any more for it than for black and white.

And here, to my mind, is the rub: Some of the large national advertisers have threatened to withhold newspaper advertising, or to reduce it materially, unless guaranteed rates which they enjoyed in 1929, and some want even still lower rates. It seems to me that once publishers have demonstrated to advertisers that color in dailies is mechanically feasible the advertisers are very likely to expect color without any additional compensation to the publications.

We can all still recall what happened during the good old boom days of 1927, 1928 and 1929 when publishers were furnishing advertisers with market surveys, merchandising schemes, placing analysts at their disposal, and all but took orders for their merchandise. Competition among publishers would have by this time compelled them to actually sell the advertisers' merchandise had not the deflation come along and pricked the bubble of this expensive super-service idea.

BLACK-AND-WHITE RATES MAY FALL

I sense that this is just what is bound to happen with the color idea. It seems that some publishers are determined to have color. The competition that will inevitably result will force publishers to run color at greatly increased cost to themselves but most probably without compensation to themselves, and most certainly without adequate compensation. It seems to me that the inevitable result will be that black-on-white rates will fall and that color will command no more than black on white today. Once the advertiser gets color without any extra cost he certainly will not very long be content to pay the same rate for black on white.

CONFLICTING COLOR SCHEMES

And the publishers' headaches will have only just begun. Unless the use of color is severely censored and circumscribed, our dailies will become such a hodge-podge of conflicting color schemes that their appearance will disgust readers and kill the goose that lays the golden egg. If color is to be at all worthwhile it must show up faithfully in the reproduction of its advertisers' products or ideas.

Here again, taking it for granted that the mechanical difficulties which at the moment appear to be well nigh insurmountable, can be scaled and overcome, will advertisers be willing to have their color schemes censored, or is publication to be confined as in most instances today to full-page ads, special pages and special days? Then again, what advantage will advertisers have over one another when all are using color? These and hundreds of other questions crowd thick and fast in one's mind and will furnish many a problem for the publishers to solve.

VARIATION OF NEWSPRINT PRINTING SURFACES

From the mechanical side there are many angles to be taken into consideration. The nature of the newsprint itself must be considered. It is the cheapest kind of paper made and naturally varies from run to run and from day to day. Even the best grades of newsprint will vary materially and will run from what appears to be a machine glazed finish to a rather rough surface. Printing is appreciably affected accordingly.

INKS OF NEW QUALITIES NEEDED

Then the question of ink arises. Inks of new qualities and characteristics will have to be invented if we are to superimpose three of four colors at the speeds at which our daily newspapers are printed; speeds which our present schedules require and demand.

ADAPTABILITY OF STEREOTYPE PLATES

There really isn't much of a problem involved in the question of printing plates. Stereotyping methods would, of course, have to be used. There is a method in use today which can readily be adapted for newspaper requirements. This system is now being used abroad to print illustrated magazines on perfecting presses, and also for color work requiring accurate register. The nature of this process is such that it can be adapted readily to color stereotypes in the newspaper foundry.

PROBLEMATICAL QUESTION

But after all is said and the thing is done, what has actually been accomplished? Will the publisher of the daily newspaper through the use of tone color actually secure a larger share of the advertisers' dollar? Only time will tell. In my humble opinion there is nothing in store for the publisher but headaches and heartaches.

In the opinion of some of the foremost experts in the manufacture of color equipment, process color in our daily newspapers can be only a liability as long as it is used in conjunction with 2½-cent paper and 3-cent ink and must be run at the high speeds required.

PROPER FUNCTION OF COLOR IN NEWSPAPERS

For *de luxe* supplements, using a better grade of paper and run at comparatively low speeds, the publishers of our daily papers undoubtedly have a field that can be and is worthy of development. But when they talk of printing process color in the average run of daily newspaper space it is my humble judgment that they are inviting no end of trouble.

Printing Equipment Engineer's New Cover and Typography

Our new cover design was drawn by Bert VanDellen, a Cleveland artist who has done considerable commercial work in this territory. His treatment of the cover design may be interpreted as a modern handling of a classical subject.

This issue also takes on a new typographical appearance which is the work of Victor H. Smith, Cleveland typographer. In a magazine such as ours, the editorial content of which deals principally with printing equipment and supplies, it is customary to lay out a conservative design by employing the Century Series or one of the staid Roman faces so that the typography will be in harmony with discussions on inanimate things made of cold iron, steel and various other materials.

Mr. Smith, however, feels that harmony certainly is not the only requisite to typography in a magazine devoted exclusively to mechanical executives. There is something of the ornate in machine design even though it may be a secondary consideration to utility.

Mr. VanDellen has carried the same spirit of restrained decoration as well as harmony into the cover design.

Large Commercial Plant Humidified

Unit System Used in Lithographic Printing Department of Lowell (Mass.) Courier-Citizen Company

By Francis A. Westbrook*

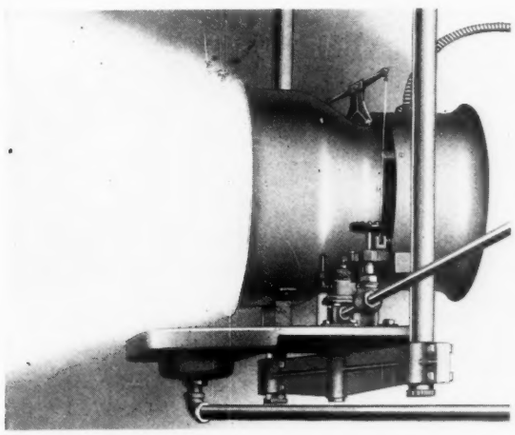
The large job printing plant of the *Courier-Citizen* Company at Lowell, Mass., is operated on a strictly quantity production basis. A great deal of the most modern equipment is to be found in use. An interesting example from the air conditioning standpoint is the installation of a system of individually suspended and automatically controlled humidifiers in the lithograph department.

These humidifiers were installed principally for use in winter when the air is dry and the correspondingly dried paper has a tendency to curl. The sheets are hung in the humidified room where the moisture content eliminates the curl by conditioning the stock. It insures printing of a better quality and better production through equalizing the moisture content of the paper to that of the air, because the fibres of the sheets will then lie flat between the plate, blanket and impression cylinders of the press, and therefore lithograph without wrinkling. The humidifiers have been the means of materially increasing production.

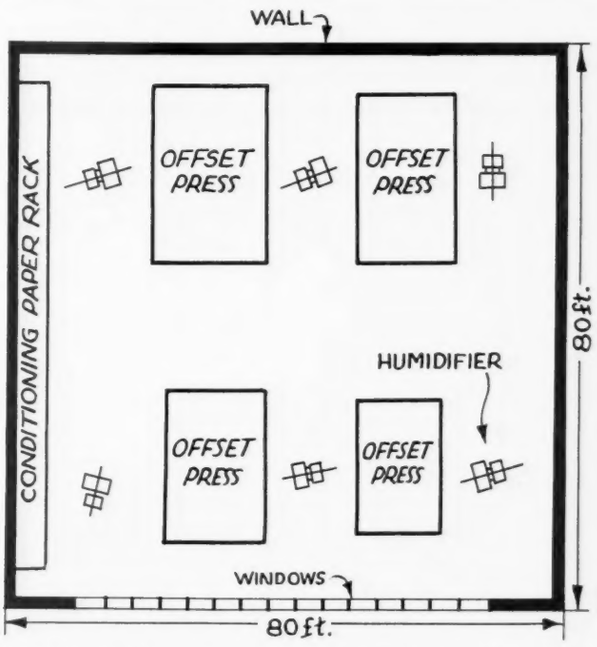
From the sketch it will be seen that the room is approximately 80 feet square and that the windows are all on one side. The offset machines are placed as shown, and the racks on which the sheets are hung for an hour or so for conditioning before lithographing are along one side of the room.

The interesting thing about this installation is the fact that each humidifier is individually controlled and that as a result a uniform humidity in all parts of the room is maintained. A centralized control for the humidifiers in a room of this size having the windows all on one side it is claimed, frequently results in excessive moisture in some parts of the space when they are in operation, and at other times in too little moisture when they are not operating. The reason for this, of course, is that the direction of the window, the exposure to sunlight, and other causes such as drafts, tends to cause drying, or the reverse, in one part of the room and not in the others. Consequently with just one control for the whole installation of humidifiers their operation will be dependent on the condition of the air at the point where the automatic control equipment is located, regardless of what they may be at the several locations of the humidifiers themselves. Individual control at each humidifier overcomes this difficulty, and has met with success at the *Courier-Citizen* plant.

*Mechanical Engineer, Center Conway, New Hampshire.



Humidification Unit as used in the job printing plant of the Lowell (Mass.) Courier-Citizen Company. Each Unit is individually and automatically operated through a sensitive control. It is claimed by the manufacturer that the moisture flow changes in approximately less than two minutes after a humidity change of even two per cent or less. Relative humidity can be held at a fixed percentage since the amount of water-vapor supplied by the Humidifier is controlled automatically by the moisture in the air. By referring to the diagram showing the floor plan of the Courier-Citizen plant the location of the Humidifier Units may be seen in relation to the presses.



Floor diagram of air-conditioned offset printing department of the Lowell (Mass.) Courier-Citizen, showing location of air-conditioning units and paper-conditioning racks. It is claimed that since each unit is automatically and individually controlled, that the air condition in the immediate proximity of the unit is held at a fixed humidity regardless of conditions which might require a different adjustment for a unit in another part of the room.

Auditor for Composing Room?

Here's the Answer from a Composing Room Executive Who Explains Benefits from Use

By Geo. W. Holloway*

The bugaboo of unknown newspaper composing room costs is an ailment common to many composing room executives. However, while diphtheria, typhoid or other diseases do exist, there are adequate measures for control. I maintain that a composing room auditor (one who has his desk right in the composing room) is the best remedy for these unknown costs.

Every composing room executive can effect a saving running from twenty to thirty per cent by placing a good auditor in the composing room. The specific duty of the auditor is to install and carry out whatever system, he finds is best suited to the individual case. While it is quite possible that the system and records in each composing room would of necessity have to be varied in order to apply to different conditions, still the fundamental principles are the same.

The Nashville *Banner* installed a composing room auditor some time ago, at what first appeared to be a useless expense. Such a venture has since proved a very profitable investment, for through him we know just what it costs to produce news type, ads, heads, proofreading and cost per page—not per year, per month, or per week, but per day. At the end of the week, we can see what our linotype work, our ad department, our proofreading and makeup have cost us, and we know what our supervision is.

It is therefore, in the light of experience, and not guesswork, that I say, if newspaper composing rooms would install good auditors, composing room executives would find where the leaks are.

Perhaps the best way to give the reader some idea of what can be done is to give an outline of our system which has been operating with excellent results.

An illustration as to how we obtain the true cost of a display ad in the composing room, take this example: An ad 5 columns by 22 in. arrives from the advertising department with complete instructions as to size, date for insertion, etc. The markup man immediately attaches another slip to the copy on which he places the number of the ad, date and time received, size, name of advertiser, whether local, national, or display classified. As the markup man is the first to perform any duty, he immediately writes his name in the alloted space. If the ad is original composition, he places a check (√) mark in the column designated. He also records in the proper column the amount of time required in handling, and so on down the line to the Ludlow operator, the linotype operator, the compositor, the proofreader, each designating by check mark the kind of work performed and time required. Additional slips are attached to office proofs or advertiser's proofs and the same operation is repeated until the ad has a final "OK." These slips are turned in to the auditor each day. He then arranges them in proper form for figuring the cost. Under the old system, no time was kept on anything. The copy was simply brought to the composing room, marked up and set. By whom, many times, no one knew. And the unnecessary time spent on such ads was thievery to the office.

We use the piece system for compensation of operators on our news machines, but handle it differently in several respects from other offices. In most plants where this system is used as a basis of paying line operators, each operator pastes and measures his own string. These strings are later examined by the foreman, or some authorized person. In our department, the reverse is true, because here enters our auditor. He pastes up, classifies and measures all strings each day. After that, they are placed on a table where the operators may examine, and check as they see fit, and if they find

Continued on page 23

*Superintendent of Composing Room, Nashville (Tenn.) *Banner*.

Quick, Watson, The Needle!

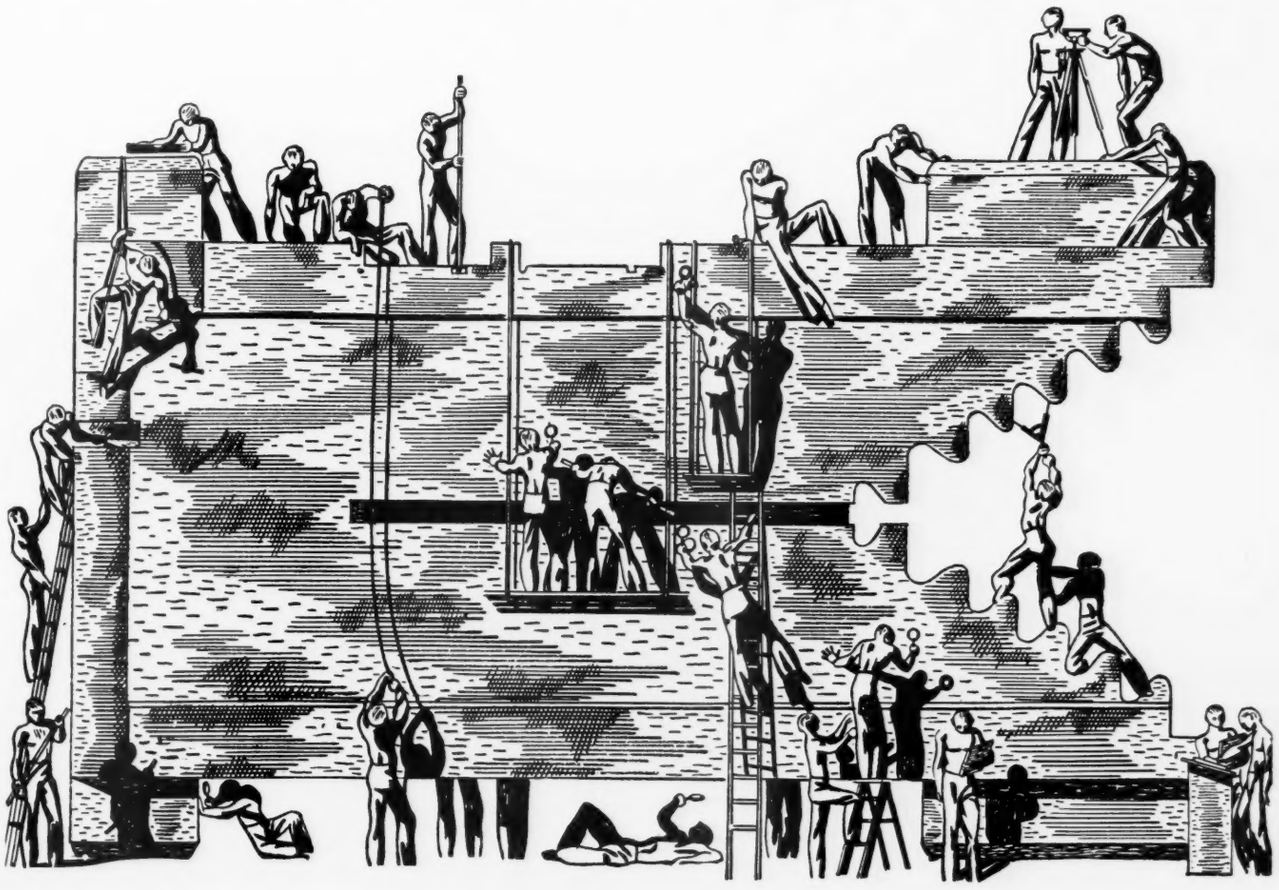
It seems odd that a well-known type of medical instrument can be converted into a practical tool for use in the care of a plant of line-casting machines. Warren Schweida, assistant machinist in the composing room of the Cleveland *News*, fitted a sliver barrel type of physician's hypodermic syringe so that it can be used to apply clock oil to the journals of keyboard cams. The usual practice is to employ a toothpick or wire dropper when applying the oil. Even then, unless care is exercised, too much oil will cause the cams to become fouled.

With the "needle" as remodeled by Mr. Schweida, an exact quantity can be applied just where it is intended to be put without waste.

An adapter was made and applied to the end of the barrel or cylinder so the new-style "needle" could be applied by screwing the needle cap to the cylinder. An extension spring was also applied to the plunger between the cylinder and plunger head. As soon as the thumb pressure is released the spring retracts the plunger and prevents oil flowing from the needle point. The needle as received from the supply house is cut off a short distance from the end to permit escape of the oil in the right amount.

TRADE LINOTYPE MARK

IT'S THE FACE THAT COUNTS



100 eyes
search for flaws

Every single Linotype matrix has to pass fifty tests and examinations before it can get out of the Linotype factory. Every dimension is checked with specially-designed instruments that show their readings in tenths of thousanths. Face, depth, alignment, fitting . . . all must be exactly right to produce a flawless face. Ears, teeth, lugs, clearance cuts . . . these too must be correct to a fraction of a hair or the matrix must be rejected.

In the standard matrix equipment of one Model 14 Linotype, there are 269,550 chances for error. Do you wonder that there must be an army of vigilant inspectors always on the job?

Linotype Bodoni and Metro Families

MERGENTHALER LINOTYPE COMPANY, BROOKLYN, N.Y.

San Francisco · Chicago · New Orleans · Canadian Linotype, Limited, Toronto, Canada
Representatives in the Principal Cities of the World

Recently Issued Printing Patents

Refinements and Improvements for Printing Processes Continue—Nearly All Branches Represented

December-January

Printed Copies of Patents Are Furnished by the Patent Office at 10 Cents Each. These May Be Obtained by Addressing Commissioner of Patents, Washington, D. C.

1,934,157. INKING MECHANISM. Charles A. Wulf, Indianapolis, Ind. Application October 20, 1930. Serial No. 489,881. 15 Claims. (Cl. 101 — 169.)

1. Inking mechanism comprising a bed provided with upstanding parallel side members, an impression plate mounted on the bed and spaced from the side members to provide troughs, an ink-receiving well at one end of the bed, the troughs inclining toward the well and communicating therewith, a carriage mounted for movement on the side members, and a scraper supported on the carriage and adapted to engage the plate and to be moved thereacross with the carriage.

1,934,367. COLOR PROCESS. Joseph Alfred Lucas, New York, N. Y. Application August 1, 1931. Serial No. 554,449. 3 Claims. (Cl. 95 — 5.1.)

1. A method of preparing process color plates of cuts which comprises producing a plurality of filtered but unscreened separation negatives of an object to be reproduced, producing photographic positives therefrom, disposing the positives at different angles behind a common rectangularly-lined screen, making through the screen photographic negatives of the positives on a single plate in one operation, producing therefrom on suitable material a single composite cut and thereafter severing the composite cut into individual cuts or color plates.

1,934,775. METHOD OF WEB PRINTING. Max Stoessel, Ridgewood, N. J., assignor, by mesne assignments, to Shellmar Products Company, Chicago, Ill., a corporation of Delaware. Application May 2, 1930. Serial No. 449,309. Renewed July 24, 1933. 5 Claims. (Cl. 101 — 211.)

1. The method of printing on a desired surface, which comprises printing a visible primary design on the surface with one type of ink having a certain fluid medium, and immediately thereafter visibly printing directly on the visible primary design with a different type of ink having a different fluid medium not miscible with the first named medium.

1,934,776. MACHINE FOR PRINTING WEBS. Max Stoessel, Ridgewood, N. J., assignor by mesne assignments, to Shellmar Products Company, Chicago, Ill., a corporation of Delaware. Application May 2, 1930. Serial No. 449,310. Renewed July 22, 1933. 4 Claims. (Cl. 101 — 152.)

1. The combination in a web printing machine, of a printing assembly adapted to operate with various diameters of plate and impression cylinders, rolls for feeding the web to maintain the proper tension thereon, means for slitting the web, and means for varying the speed of the web feeding rolls and the web slitting means to compensate for the variation in movement of the web which results when the cylinder diameters are varied.

1,934,881. INTAGLIO-ENGRAVED-PLATE, FLAT BED PRINTING PRESS. Oliver A. Quayle, Sr., Albany, N. Y., assignor to Albany Monroe Corporation, Albany, N. Y., a corporation of New York. Application January 12, 1932. Serial No. 586,179. 12 Claims. (Cl. 101 — 158.)

1. In an intaglio-engraved-plate, flat bed printing press, an intaglio-engraved-plate, an impression roll cooperating therewith, a unit comprising an element for holding a sheet of paper, means for causing the element to take possession of the paper prior to the taking of an impression, the element retaining possession of the paper during the taking of the impression between the impression roll and the intaglio-engraved-plate, and after the paper has left the intaglio-engraved-plate and the impression roll, the element moving at the same speed as the surface speed of the impression roll, a paper receiving device, and associated means for delivering the paper from the unit to the paper receiving device printed side up.

1,935,051. PRINTING-PRESS. Charles W. Harrold, Cleveland, Ohio, assignor to Harris-Seybold-Potter Company, Cleveland, Ohio, a corporation of Delaware. Application August 11, 1931. Serial No. 556,361. 17 Claims. (Cl. 101 — 174.)

1. In combination a printing couple comprising an impression cylinder having a plurality of impression surfaces and a like plurality of printing members coacting therewith, a plurality of feeding devices for advancing sheets alternately to a gripper feed cylinder to be taken therefrom by the impression cylinder, a delivery cylinder, and a like plurality of deliveries taking the printed sheets alternately from the delivery cylinder.

1,935,352. METHOD OF AND MECHANISM FOR TREATING STEREOTYPE MATRICES. George M. Clark, Lynn, Mass. Application May 20, 1931. Serial No. 538,757. 8 Claims. (Cl. 210 — 66.)

1. The method of conditioning a moist stereotype matrix, which comprises curving the matrix to substantially the desired contour, and while supporting substantially its entire surface against undesired outward movement, rotating the matrix about substantially its axis of curvature at high speed.

1,935,522. APPARATUS FOR SCORING PAPER, CARD-BOARD, OR LIKE MATERIAL. Alfred Prior, Deptford, London, England. Application October 17, 1932, Serial No. 638,242, and in Great Britain October 27, 1931. 1 Claim. (Cl. 164 — 60.)

In an apparatus for scoring fibrous material, the combination with a rotatable shaft provided with a plurality of continuous circumferentially extending scoring projections, of a second shaft supported for rotation adjacent to and substantially parallel with the first named shaft, a plurality of annular members supported on the second shaft for rotation therewith and for adjustment axially thereof, the members having conical peripheral portions disposed in spaced relation with corresponding scoring projections to effect scoring of material passing between the shafts, means for retaining the members against axial displacement on the second shaft and in predetermined spaced relation with the projections to control the depth of scoring, and annular gauge rings carried by one of the shafts adjacent the ends thereof and engaging the other shaft to maintain correct spacing between the shafts and between the scoring projections and the cooperating annular members.

1,935,629. LITHOGRAPHIC INK. John G. Goedike, San Antonio, Tex. No Drawing. Application November 28, 1931. Serial No. 577,867. 7 Claims. (Cl. 134 — 35.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)

1. A composition of matter for printing ink, comprising plate oil, wool fat, an aqueous dispersion of gum-arabic and a pigment.

1,935,668. SLUG FORM. William H. Ritenour, Pittsburgh, Pa. Application October 22, 1930, Serial No. 490,496. Renewed February 23, 1933. 6 Claims. (Cl. 101 — 404.)

1. A type-form comprising a plurality of character slugs and spacing strips, the type-form having a continuous groove formed in the ends of the character slugs and spacing strips, in combination with a loose-fitting detent extending at right angles to the lengths of the slugs and adapted to check the rise of the spacing strips during the printing operation.

1,935,799. SELECTIVE HEADLINE MECHANISM FOR PRINTING PRESSES. Frank E. Jamison, Kansas City, Kans. Application January 25, 1932. Serial No. 588,659. 7 Claims. (Cl. 101 — 92.)

1. In a machine, a constantly driven rotary member, a rotary cylinder, and a pair of normally interlocked rotary members, one rotatable with the constantly driven member and the other with the cylinder, means for breaking the interlocked relation between the pair of rotary members to effect a change in the radical relation thereof, and means to apply braking force to one of the pair of members to facilitate the changing of radial relation between the pair of members.

1,936,067. ROTARY STEEL PLATE PRINTING MACHINE. Frank C. Marquardt, Brooklyn, N. Y., assignor to American Bank Note Company, New York, N. Y., a corporation of New York. Application October 10, 1932. Serial No. 637,188. 9 Claims. (Cl. 101 — 153.)

1. A rotary steel plate printing machine embodying therein a plate cylinder, an impression cylinder or D-roll, a continuous gear carried by, and rotatable with, the plate cylinder, two segmental gears adapted to mesh with the continuous gear, one of which is connected directly with, and the other of which is idly mounted in relation to, the impression cylinder or D-roll, and a spring rigging connecting the idly mounted segmental gear with the impression cylinder or D-roll, whereby the impression cylinder or D-roll may have varying angular movement relative to the continuous gear.

1,936,068. ROTARY WEB UNDER-SURFACE PRINTING MACHINE. Frank C. Marquardt, Brooklyn, N. Y., assignor to American Bank Note Company, New York, N. Y., a corporation of New York. Application October 28, 1932. Serial No. 640,057. 20 Claims. (Cl. 101 — 153.)

1. A rotary web undersurface printing machine embodying the combination with an impression cylinder and a plate cylinder adapted to receive a plurality of printing elements in spaced relation to each other, of means controlling the web movement including therein cooperating clamp members operative upon a web, means actuating the clamp members to alternately impart movement thereto toward and from the plate cylinder, and means making the clamp members inoperative upon the web during the making of an impression, and for making the clamp members operative upon the web during movement of the clamp members from the plate cylinder.

1,936,253. MATRIX STICK. Philip P. Merrill, Evanston, Ill., assignor to Ludlow Typograph Company, Chicago, Ill., a corporation of Illinois. Application June 25, 1932. Serial No. 619,341. 2 Claims. (Cl. 199 — 47.)

1. A matrix stick comprising a frame portion to receive matrices and spaces, means for clamping the matrices and spaces in the frame and comprising a rotatable operating element, an outwardly extending projection on the element, a sleeve rotatable on the element, an inwardly extending projection on the sleeve, a spring between the element and sleeve and engaging the projections and pressing the sleeve into frictional engagement with the element, and indexing means comprising cooperating portions one of which is on the sleeve.

1,936,255. SLUG CASTING MACHINE. Luther E. Morrison, New York, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application March 7, 1932. Serial No. 597,192. 15 Claims. (Cl. 199 — 60.)

1. In or for a slug casting machine, a slug ejecting mechanism having an ejector proper comprising two distinct ejector sections of different effective thicknesses, each of the sections being variable in width and usable independently of the other section.

1,936,256. SLUG CASTING MACHINE. Luther E. Morrison, New York, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application March 7, 1932. Serial No. 597,193. 22 Claims. (Cl. 199 — 60.)

1. In a slug casting machine, the combination of a plurality of molds for producing slugs of different thicknesses, means for selecting one or another of the molds for use, a slug ejecting mechanism including an ejector proper variable in thickness, and automatic means for varying the effective thickness of the ejector according to the particular mold in use.

1,936,302 SLUG CASTING MACHINE. Guy F. Humphreys, Minot, N. Dak., assignor to Mergenthaler Linotype Company, a corporation of New York. Application June 2, 1931. Serial No. 541,619. 6 Claims. (Cl. 199 — 61.)

1. In a slug casting machine, the combination of a mold, a movable metal pot to cooperate with the mold, a galley to receive the slugs as they are delivered from the mold, a slug stacking lever arranged at the receiving end of the galley, an operating lever arranged to be engaged and actuated by the movable pot, an intermediate motion transmitting member connecting the two levers and comprising two rods connected together by a relief device, the relief device comprising a cylinder secured to the inner end of one of the rods, a compression spring arranged within the cylinder, and a retaining nut on the inner end of the other rod and engaged with the free end of the compression spring.

1,936,782. INTERLOCKING DISTRIBUTOR AND ELEVATOR BAR FOR TYPOGRAPHICAL MACHINES. Reuben Bartholomew, Brooklyn, N. Y. Application December 1, 1931. Serial No. 578,290. 5 Claims. (Cl. 199 — 33.)

1. A bar for use in a typographical machine adapted to carry the matrices in suspended position thereon and having a V-shaped and longitudinally grooved lower portion upon which the matrices are received and delivered by being slid longitudinally thereon, said bar being arranged to be moved transversely to and in parallelism with another bar into alinement therewith, the adjacent ends of said bars being formed with faces at an oblique angle transverse to the longitudinal axis of the bars to avoid contact between the end edges of the grooves until the bars are in alined position.

1,936,916. WEB SUPPLYING AND CONTROLLING MECHANISM. Charles J. Richter, Berwyn, Ill., assignor to Goss Printing Press Company, a corporation of Illonois. Application March 22, 1928. Serial No. 263,624. 6 Claims. (Cl. 242 — 75.)

1. A web-supplying mechanism including in combination a plurality of means for rotatively supporting web rolls, a plurality of braking mechanisms, one for each of the web rolls, and a common web-controlled device between the web roll axes for simultaneously governing the action of a plurality of the braking mechanisms.

1,937,228. ATTACHMENT FOR LINOTYPE OR INTERTYPE MACHINES. Arthur E. Jordan, Bemidji, Minn. Application July 25, 1931. Serial No. 553,151. 3 Claims. (Cl. 88 — 39.)

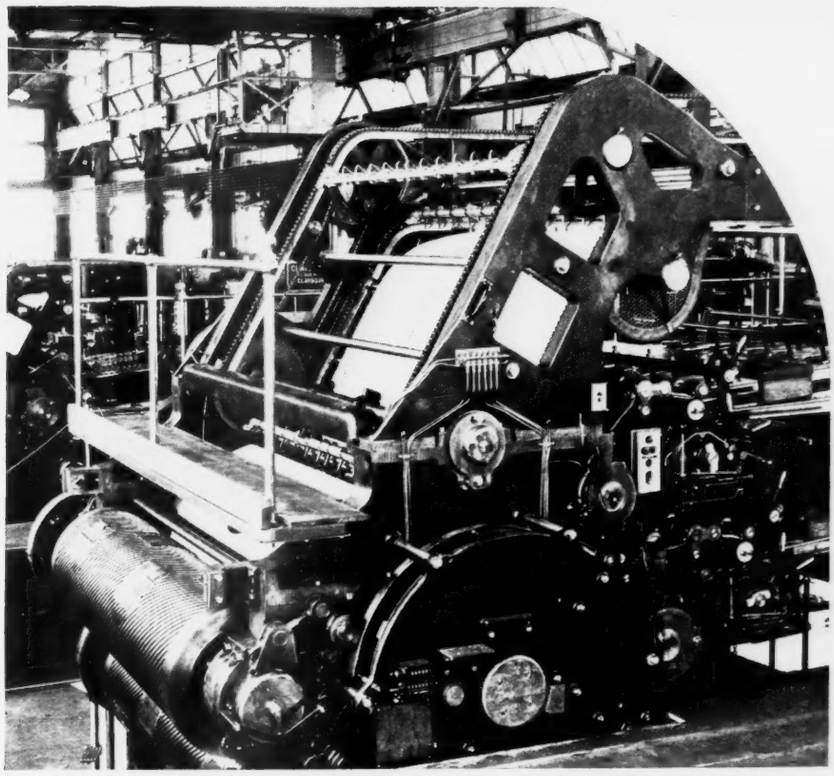
1. In a linotype machine, a lens, means for supporting the lens in spaced relation with the exposed faces of the matrices as matrices are being arranged for casting a line of type, the means comprising a holder including a pair of extensible arms, end walls extending inwardly from the outer end of the arms, U-shaped clips mounted on the end walls, means for adjustably securing the clips on the end walls, each of the clips having a portion engageable with the lens for retaining the lens in position.

1,937,412. WEB ROLL STOPPING DEVICE. Oscar Charles Roesen, Eastchester, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application December 15, 1928, Serial No. 326,337. Renewed July 29, 1932. 2 Claims. (Cl. 242 — 75.)

1. In a web supply device for a printing press, the combination with a support for the running roll, of a belt engaging the surface of the running roll for normally holding the web back and means for running the belt from the press, the belt having rearwardly extending

Continued on page 27

SKF EQUIPPED
BUILT BY
CLAYBOURN PROCESS CORPORATION



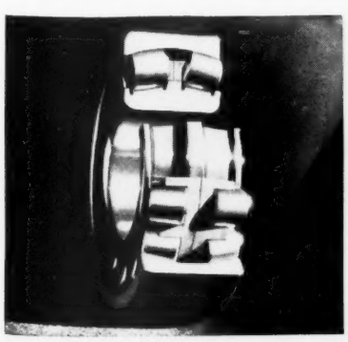
PERFECT REGISTER DEMANDED AND ASSURED WITH

▼ ▼ ▼ SKF BEARINGS

"RUNNING with entire satisfaction," is the verdict on SKF Spherical Roller Bearings applied to the main work shafts of the large convertible two-color presses built by Claybourn, one of which is shown above. In addition, other SKF Bearings are used on these machines, but the most important feature stressed is . . . *SKF's on the main work rolls.* Perfect register is automatically demanded in color printing . . . nothing else is good enough!

Precision bearings are an important factor in the making of precision presses and the ultimate result sought for . . . quality of work turned out. SKF Bearings . . . throughout a long life . . . assure the utmost in smooth running so necessary on applications of this type . . . plus the perfect register made possible only by bearings that show no wear and *need no adjustments.* For these reasons, SKF Performance is demanded on the finest printing machinery.

●You may buy a bearing as a bargain but try and get a bargain out of using it. for nothing is apt to cost so much as a bearing that cost so little



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SKF INDUSTRIES, INC., FRONT ST. and ERIE AVE., PHILADELPHIA, PA.

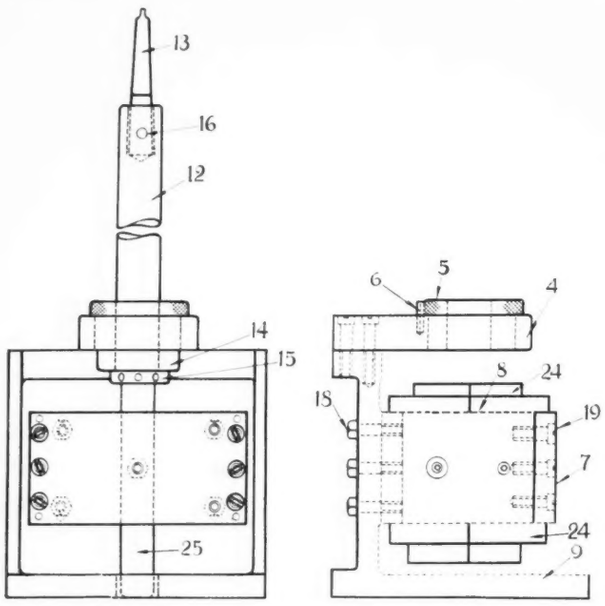
SKF
Ball and Roller Bearings

Boring Fixture for Press Cylinder Bearings

A fixture for boring or refinishing the cylinder bearings on newspaper presses has been designed by H. D. Rindsberg, mechanical superintendent, and S. R. Weiskittel, pressroom superintendent of the Cincinnati *Enquirer*. By the use of shims in order to furnish enough stock for re-machining purposes, it is also claimed that worn bearing shells have been rebored successfully in the fixture.

The fixture was designed primarily for use with Goss press bearings but can be adapted readily to any make of press where each bearing is fitted into a box which can be removed from the printing press at the time the reboring is to be done.

Cylinder bearings which have been in use for a period of years become worn so that it is necessary to replace them. Because the shaft also wears, it is necessary to vary the size of



Rindsberg-Weiskittel Boring Fixture which has been designed to machine newspaper printing press cylinder bearings to within 0.003 in. It is claimed that, through the use of this fixture many hours of hand scraping can be eliminated. The bearing to be bored is fastened in the fixture and mounted upon the work table of any ordinary drill press.

In the diagram 4 is the bushing arm and 5 is the bushing, held from rotation by the bushing stop pin 6. The bushing 5 guides the boring tool 12 centrally through the bearing box 24. A pilot 25 guides the boring tool from the lower portion of the bearing box which is being bored.

The boring tool shank 13 fits into a socket in the upper end of the boring bar 12 and is secured by a driving pin 16 to revolve the cutter 14. The cutter 14 is held rigidly on the bar by the clamp 15.

The plate cylinder block 8 is of heavy construction and the side plates 7 are held to the fixture by ½-in. hex. hd. clamping screws and stout dowels.

the bearing to fit the individual shaft. Heretofore, it has been necessary to replace the bronze bearings and then scrape them by hand for several days to obtain a good fit. Through the use of this fixture and a few hours of work, it is claimed that the finished bearing will be more accurate than possibly could be done by hand by the most skilled mechanic.

The fixture is used as follows: The entire bearing box is removed from the press housing. The old bearing shells are removed and replaced with new ones. New bearings are usually furnished oversize so they can be fitted to the shaft. The entire bearing box is mounted in the fixture and bored to 0.003 in. undersize. This operation takes about thirty minutes. Then the bearing is removed from the fixture and fitted to the shaft by scraping. It is claimed that bearings bored in this manner will be accurate as to size and alignment.

The fixture is made to fit any ordinary drill press which need not be an elaborate one as the fixture is self-contained. The boring bar is guided by hardened bushings and is driven by a floating taper shank.

Mr. Rindsberg states that working drawings will be gladly furnished to anyone for a nominal sum. He can be communicated with in care of the Cincinnati *Enquirer*.

Gage Returns from Tour Optimistic

Harry L. Gage, vice president in charges of sales for the Mergenthaler Linotype Company, who has returned to New York after a five weeks' swing around the country with stopovers at New Orleans, Los Angeles, San Francisco, Chicago and points in between, says that he found many encouraging signs of a pick up in various lines of business. In some sections, he says, buyers of advertising and printing in general seem to be holding back a little, awaiting code developments; but that newspaper publishers and master printers in those areas expect an increase in business in the near future, or as soon as certain code difficulties are straightened out.

January 26, Mr. Gage will act as critic of the 1934 Tileston & Hollingsworth calendar at a meeting in Boston under the auspices of the Boston Club of Printing House Craftsmen. Later he will act in the same capacity at several similar meetings in New England. As usual, the latest T. & H. calendar was produced by twelve New England printers.

Hawaiian Language Easy to Set

One of the easiest languages to set on the Linotype is the Hawaiian, according to a story in the latest issue of *The Linotype News*. There are only twelve letters in the alphabet, a, e, i, o, u, h, k, l, m, n, p, w, and, as many of the words are short, the language can be composed speedily. It is quite common to have as many as eight spacebands in a line of eight point twelve picas wide; the average is about six. This means virtually no hand spacing.

The best known newspaper printed in the Hawaiian language is Ke Alakai O Hawaii, which means the Guide, or Leader, of Hawaii. The editor and publisher is Jonah Kumalae, a well-known Hawaiian scholar, who speaks and writes English and Hawaiian fluently.

The paper has a Model 8 Linotype equipped to carry extra channels of lower case a and k in the fi and fl channels. In Hawaiian type cases, the lower case k box is the same size as the e box.

Hawaiian language newspapers specialize in general stories, rather than up to the minute news, and most subscribers read everything in the paper, often several times. There is no glancing at headlines, shuddering over stock reports, and then throwing aside of Hawaiian language papers.

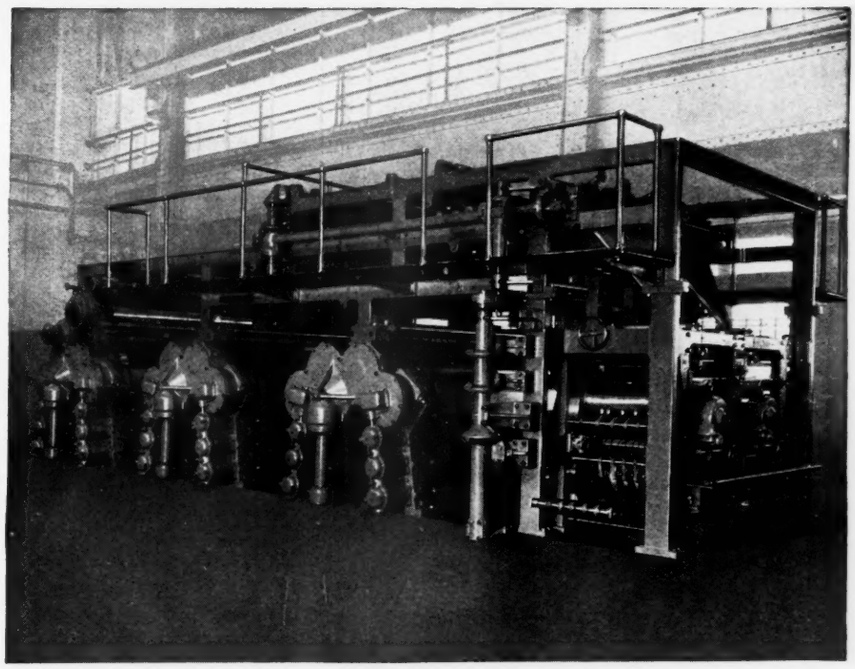
The first Linotype was erected in Honolulu in 1895, and on it were set the revised laws of Hawaii, in the Hawaiian language.

There are now sixty Linotypes in the Hawaiian Islands.

Executive Changes in W. F. Hall Printing Company

Early in December, Wendell H. Cowles was appointed eastern sales manager of the W. F. Hall Printing Company and the Art Color Printing Company, Dunellen, New Jersey. The latter is a subsidiary of the W. F. Hall Printing Company of Chicago, Ill.

On Monday, December 11, the New York sales office of the W. F. Hall Printing Company and its eastern subsidiary (Art Color Printing Company) moved into new and greatly enlarged offices in the Graybar Building, 420 Lexington Ave.



New Hoe Arched-Design Super-Production Press with new three-ink-cylinder distribution . . . new balanced drive . . . helical and spiral gears . . . oil bath lubrication . . . instantaneous plate lock-up, etc., recently shipped to *The Melbourne Herald.*

Gain

Safety, Convenience and Improved Printing

with the

HOE *Super-Production* PRESS

CHOOSE either the Space-Saving Design or the Arched-Design in the Hoe Super-Production Press. That's the surest way of gaining the maximum production and finest quality of printing.

Locking-up is now as simple as A B C and the speed of operation is unequalled with the Hoe Instantaneous Lock-up. There's still another new Hoe feature which saves still more time, the High Speed Paster and Automatic Tension. Both have proved their unfailing ability at high speeds.

Bear in mind that the Hoe Instantaneous Lock-up can be applied to your present presses. Likewise, the High Speed Paster and Automatic Tension are available not only for all new Hoe Super-Production Presses but can be applied to existing ones.

IRVING TRUST COMPANY . . . RECEIVER IN EQUITY FOR

R. HOE *& Co., Inc.*

• *General Offices* •

138th St. and East River

• *New York City*

BOSTON SAN FRANCISCO CHICAGO

Modern Manufacturing Methods are Applied to Zinc

IN this day of exact standards and strict codes, it is most consistent to choose Zomo Electric Zinc. This metal is in keeping with modern methods and conditions. The formula was developed in the world's largest zinc laboratory. It is melted and cast in the electric induction furnace. Tests have proved that every sheet of this metal is within 5-100 of one per cent of the ideal composition.

Zomo Electric Zinc stands up under high matrix pressure, etches quickly and cleanly and routes with gratifying ease. The quality of this metal is in keeping with modern newspaper methods.

The following carry stocks of Zomo Electric Zinc for prompt delivery: Rolled Plate Metal Company, Brooklyn, N. Y.; Pacific Steel & Copper Plate Co., San Francisco and Los Angeles, Calif.; C. G. Hussey & Co., New York, N. Y., Pittsburgh, Pa., Cleveland and Cincinnati, Ohio; Allan B. Croke Co., Cambridge, Mass.; Scientific Supply Co., Denver, Colo.; Phototechnical Laboratories, Inc., Washington, D. C.; W. E. Booth Co., Ltd., Toronto, Ont., Canada; American Steel & Copper Plate Co., Jersey City, N. J., Chicago, Ill.; Eastman Kodak Stores, Inc., Detroit, Mich., Kansas City, Kans.; Omaha, Nebr.; Minneapolis, and St. Paul, Minn., Atlanta, Ga., New York, N. Y., St. Louis, Mo., Boston, Mass., and Washington, D. C.

ZOMO ELECTRIC ZINC

196-210 Van Brunt Street
Brooklyn, New York

Photo-Lith and Offset-Lith

Bassist-Mertle Instruction Methods of Etching Positives, Technique of Exposure, Development and Fixation

By FRANK O. SULLIVAN

IN DOT etching of dry plates, every factor leading to success of the operation depends entirely on the plate used for the purpose. Every realization of this contingency led Ellis Bassist to many expensive experiments in an effort to perfect an emulsion which would incorporate all the properties necessary for systematic photomechanical manipulation of the halftone image.

What was desired was a plate possessing not only very high contrast but good graduation. The developed image required great opacity but with freedom from halation. The structure of the gelatin vehicle of the emulsion was also of great importance, since upon its strength and texture depended the manipulation and ability of the plate to resist the physical wear and attrition incurred during the various phases of general and local re-etching.

What seemed a hopeless attainment was finally achieved through the joint effort and cooperation of the Cramer Dry Plate Company. Acting on suggestions of Mr. Bassist, the research department of this concern began a series of exhaustive tests, which finally led to the perfection of the "Bassist-Cramer Process Plate." This is the only plate made expressly for dot etching purposes; it incorporates all the essential properties which practical experience has found necessary in an emulsion intended for the embrasive requirements of tone correction through applied etching principles.

In making an etching positive, the image is brought to correct size, the retouched negative serving as an original. Any screen ruling may be used, though for offset work the usual rulings are 120 and 133 lines per inch.

While no exact data can be given regarding exposure, it must at all times be sufficient to produce a very firm and opaque dot structure in the developed image.

Screen separation is slightly less than that for wet collodion, using, for instance, 12/64th in. for a 133-line screen. Merely as an example, supposing a normal negative be at hand, using a 24-in. focal length lens, at same size, with illumination afforded by 35-amp. arc lamps:

Detail, f:45, 3 min.
Flash, f:100, 1½ min.

A highlight stop is ordinarily required, but if additional contrast is desired, give highlight exposure at f:30 for from 15 seconds to 30 seconds.

It should be noted that the "flash" exposure creates the highlights in the etching positive, while the "highlight" exposure is forming the shadows, because of greater transparency.

BRAND NEW TYPE FOR
EVERY JOB DOES IT!!!

MONOTYPE

MACHINE AND HAND SET

SINGLE TYPES

GIVE THE BEST RESULTS
FOR BOTH OFFSET AND
LETTER-PRESS PRINTING

REVOLUTIONARY

The New Monotype Vertical Plate-Coating Machine

is the first step in a definite program to improve the photo mechanical equipments and processes used in Offset and Gravure Printing. Send for a folder describing and illustrating this improvement.

LANSTON MONOTYPE MACHINE COMPANY

Monotype Building * 24th at Locust Street * Philadelphia, Pa.

Composed in Types of the Monotype Sans Serif Family

Exposure must be so graded that the darkest parts of the original retain sufficient silver deposit to permit any desired corrections without loss of opacity. Except in cases where a solid is to be printed, the shadows must be represented by a minute but "open" dot.

In general, the safest policy is to have the etching positive a shade or two heavier than is required for the lightest tints, so as to provide the etcher with the latitude necessary for the incorporation of any effects he may intend.

It is well to handle the plate in darkness up to the time of development, which is effected with:

Hot water (125 deg. F.), 64 ounces.
Elon (Metol), 56 grains.
Sodium sulfite, 10 ounces.
Hydrochinon, 560 grains.
Sodium carbonate, 5¼ ounces.
Potassium bromid, 280 grains.
Potassium carbonate, 1½ ounces.
Water to make, 1 gallon.

This developer is suitable for tank or tray. When used at 65 deg. F., development should be continued for not less than seven minutes so as to completely reduce the light-affected silver bromid crystals to the metallic form. A good criterion of the development is that the image must appear plainly visible on the glass side of the plate, thus insuring that the image has been reduced through the layer of emulsion and not merely in superficial laminae.

The axiom is to expose for dot structure and formation, and develop for the density required for etching. It would be better to discard images which require intensification immediately, since they do not possess the color values necessary for accurate rendition, and are likely to develop stain through interaction between the by-products of intensificational chemicals and the Basol Emulsion Etch.

After development, the plate should be washed for three minutes before immersion in the fixing bath.

In warm weather, and in climates where the public water source exceeds a temperature of 70 deg. F., it is advisable to harden the developed image in:

Formaldehyde, 1 ounce.
Water, 10 ounces.

Immersing the washed plate in this mixture from 2 to 3 minutes, before transfer to the fixing bath. This is a mixture

THE plant of the largest American dry mat manufacturer, with 71,787 square feet devoted to straight line production, assures an uninterrupted process from raw material to finished product. Skilled workmen and modern machinery, much of which was specially designed for our own use, maintain a uniformly high-grade product. Adequate rail facilities guarantee prompt shipments to all parts of the country.

NRA MEMBER U.S. WE DO OUR PART

WOOD FLONG CORPORATION
HOOSICK FALLS, NEW YORK

WOOD DRY MATS
ALWAYS UNIFORM

of plain hypo, with sodium or potassium bisulfite as a preservative:

Hypo, 32 ounces.
Sodium bisulfite, 3 ounces.
Water, 1 gallon.

Thorough fixing is necessary; leave the apparently fixed image in the bath for twice the time required to remove all visible traces of unreduced silver salt.

The plate is then well washed to remove traces of hypo, after which it is treated with Basol "Densitone."

In the "Densitone" bath the image progressively bleaches to a creamy hue. Densitone imparts still greater opacity to the image, also imparting to the gelatin structure the resistivity necessary for etching.

When the image appears of a uniform creamy hue, it is well washed until the yellow discoloration largely disappears. It is then treated with Basol "Reverser" which imparts an intense bluish black color to the plate. The positive is ready to etch.

While it not absolutely necessary to permit the well washed positive to dry after treatment with Basol "Reverser," it will be found that this procedure promotes slightly greater tenacity as well as relief to the halftone image, a point of advantage when crayoning of certain parts of the design is resorted to in the process of etching.

. . Auditor

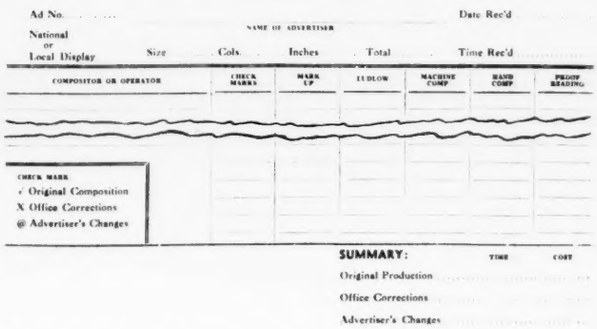
(Continued from page 14)

any errors of measurement, we gladly correct them. However, this does not happen often.

By measuring the dupes, our auditor can tell by the number of takes what an operator has set, and what edition each take went into, and he charges the time up to that edition.

Each operator has his own slugs numbered from "1" up to as many takes as he may have in a day. An extra dupe is pulled for the auditor's use. These dupes are checked each morning, and, of course, in this way no duplicates can pass. This insures that the operator will get paid for all he sets, while on the other hand, it prevents the office from paying for any spurious dupes that might be passed inadvertently.

The system works fine. Our auditor has no trouble with the operators, and they are satisfied with his calculations.


Ad No. ..... Date Rec'd .....
NAME OF ADVERTISER
National or Local Display ..... Size ..... Cols. ..... Inches ..... Total ..... Time Rec'd .....

COMPOSITOR OR OPERATOR	CHECK MARKS	MARK UP	LUDLOW	MACHINE COMP	HAND COMP	PROOF READING

CHECK MARK
✓ Original Composition
X Office Corrections
@ Advertiser's Changes

SUMMARY: TIME COST
Original Production .....
Office Corrections .....
Advertiser's Changes .....

Reproduction of Daily Record Sheet from Which the Composing Room Auditor in the Plant of the Nashville (Tenn.) Banner *summarizes each day's work. Note the departmental subdivisions.*

We have several different classifications of news matter for which we pay different prices; for instance, regular news matter is straight price; races, solid names, using both upper and lower case, radio programs, death notices and similar matter is price and one-half; stocks, bonds and so on, regular column width, are double price, and stocks in column and a half width are triple price. In this way we can tell just how much the several classes of news matter cost us.

Like all other newspaper composing rooms, the size of our force depends entirely upon the amount of business we are carrying. We use a stamping time clock for all ad copy

KEMP *Guarantees*

The Kemp Immersion Melting pot of the Wilkes-Barre Evening News is both a stereo and remelt pot with 50 plates per hour capacity. Temperature Control is completely automatic.

40% GAS SAVING *with* IMMERSION MELTING *for Stereo and Remelt Pots*

FORTY-ONE newspapers, to date, have installed Kemp Gas Immersion Melting equipment in their stereotype pots ...all this within the last fourteen months.

They are saving from 40 to 70 percent on gas. They are getting faster melting, slower cooling. They are getting less dross. They have eliminated carbon monoxide from their stereo department and made it a better (and cooler) place to work.

The word is going around. More and more newspapers will either stick to gas with KEMP or **go back to gas** with KEMP. Watch and see.

HERE'S WHAT IT IS:

A complete air-gas mixture under positive pressure, and which provides complete combustion with out the introduction of additional air, is fed to immersion burner units located INSIDE of the pot.

The Immersion Heating Elements are inserted into the existing stereotype pot and held in place by clamps fastened to the pot flange. The burners are centrally positioned in the element legs.

Uniform temperatures over the entire element surface are insured by recirculation of the hot gases, and the products of combustion, stripped of all useful heat are vented above metal surface into a hood to form an insulating blanket that prevents dross formation.

The results are 40 to 70 percent fuel saving, accurate automatic temperature maintenance at the desired point, complete freedom from pot-cracking and distinctly improved working conditions.

KEMP of BALTIMORE

THE C. M. KEMP MANUFACTURING COMPANY
405 East Oliver Street **Baltimore, Md.**

All Advertisements Above 14 Point Are

LUDLOW-SET

WE have been users of Ludlows and Elrods since January, 1921, and I find them very satisfactory. All of our ads above 14 point and about 50 per cent of our heads are set on the Ludlow.

We have two Elrod slug and rule casters which cast all of our rules and our spacing material. We always have a big supply at our finger tips.

I do not see how a newspaper can do without the Ludlow or the Elrod.

HENRY R. MOREWITZ
Foreman of Composing Room
THE BIRMINGHAM POST

LUDLOW TYPOGRAPH COMPANY
2032 Clybourn Ave.
Chicago + Illinois

Set in Ludlow 30-M Karnak Medium with Elrod Rules

passing to the composing room. Every piece of ad copy sent to the composing room is listed. Every detail of operation of the copy is timed, and at the end of the day the auditor is able to determine the composition cost of any particular ad. The keeping of composition time enables us to check into what kind of work our ad men excel in. This information is of much value in getting an even force for handling any volume of ad work.

After the noon edition, we do not permit any price changes in ads unless there is some typographical error on our part. We use a double check on all of our ads to eliminate possibility of error. The head proofreader and copy-holder check all ads in the noon edition, and much grief has been set aside as a result. Seldom does the *Banner* have to allow a re-run for typographical errors.

The makeup department of a newspaper composing room is an expensive department to operate. We have been able to lower costs in this department as a result of a careful check made by our auditor. A record of every page that goes to the stereotype foundry is kept. We know exactly at the end of the day the number of pages each makeup man has handled alone, or whether he has been given assistance.

In addition to his other duties, the auditor computes all composing room payrolls, and pays off in cash. He keeps a number of different records whereby he can give the publisher or superintendent any kind of labor cost statement at any time, requiring just enough time to make the compilation from the records he keeps.

One of the most important of the records which the auditor keeps is a cost sheet by departments, that is, he knows the duties of every person in the composing room, so that the payroll is divided by departments as follows: News operators, ad operators, monotype operators, Ludlow operators, ad compositors, bank, makeup, proofreaders and so on. This is a very valuable record, for if there are any radical changes in the payroll, one can see at a glance where the change exists. This record enables us to make comparison by departments against previous years.

The cost of a composing room auditor is money well spent. Our auditor is a general utility man. He is secretary to the superintendent; he makes up the payroll which goes to the treasurer and after the money comes up to the composing room he pays off the boys.

The installation of a composing room auditor in our opinion, greatly improves the efficiency of the department because we know what we are doing and can eliminate excessive costs which otherwise could not be isolated.

. . Dry Mats

(Continued from page 7)

composition rollers, soft impression blankets, etc. The stereotyper must furnish a plate with deep spaces, so he uses a soft top moulding cushion or perhaps a rubber creeper. This causes a different manipulating condition, requiring different moisture, texture of mat and scorching. You can, therefore, understand that different textures of mats require different manipulation to meet varying working conditions, making it impractical if not extremely difficult to consider that all dry mats could be made in such a way as to be uniformly susceptible to the varying equipment and operating conditions in the average newspaper plant.

At the Washington A. N. P. A. Mechanical Conference, one dry mat manufacturer, who was no doubt

speaking for the entire dry mat industry, expressed the opinion that dry mat manufacturers would be only too glad to standardize on dry mat sizes and moisture content provided the consumers would likewise reduce the myriad number of specifications. Probably this statement had something to do with the formation of the committee which is composed of some of the country's brightest stereotypers and which is now assisting the department's manager investigate the possibilities of dry mat standardization from the viewpoint of paving the way for a reduction in the price of dry mats.

Without in any manner anticipating the work of the investigating committee, it is my opinion that standardization of equipment would be a prime requisite in the standardization scheme. The writer is not trying to be facetious when he states that such an endeavor would look like an attempt to make the tail wag the dog. If such a program could be put over, little trouble would be experienced in inducing mat manufacturers to furnish mats of the required specifications. Likewise, standardization of manipulation through educational facilities would develop itself in the natural course of events.

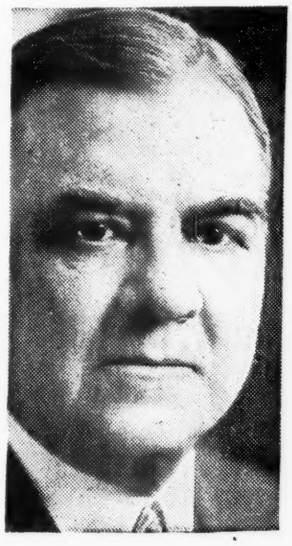
But development of such a program, if it were possible, would require a long space of time.

Wakefield Assistant to Harm

L. O. Wakefield has been appointed assistant mechanical superintendent to John W. Harm of the Chicago *Daily News*.

Theodore T. Ellis Dies in London

Theodore Thaddeus Ellis, 66, vice president and part owner of the Chicago *Daily News*, died suddenly Friday night, January 6, in London, England, from a heart attack.



Mr. Ellis, former publisher of the Worcester (Mass.) *Telegram* and *The Evening Gazette*, had been in London since November. He had a colorful career. He was born in St. Louis, April 25, 1867, and was educated in the public schools of that city.

In 1907 he established the New England Fibre Blanket Company and it was through this connection that he became well known among printing's mechanical executives.

He was an honorary life member of the International Printing Pressman's and Assistants' Union.

Mr. Ellis belonged to numerous fraternal and social organizations and was noted for his art collections. He took pride in raising Guernsey cattle at his country place in the East.

There Ought to Be A Code On Temperature

—forbidding plates to be cast at more than 600 degrees, as an outside figure. Many stereotypers insist they can't get good plates at less than 650 to 700 degrees. Either there is something wrong with their metal or they are not using Certified Mats. When an office adopts Certified Mats, the first thing that usually happens is a reduction of casting temperatures of 50 to 100 degrees (one office reports 150 degrees). It's tough on stereotypers to work at needlessly high temperatures and ideal routine simply can't be established under such conditions. A trial of Certifieds will convince you.

For Dependable Stereotyping use Certified Dry Mats.

Certified Dry Mat Corporation
342 MADISON AVENUE NEW YORK, N. Y.

Certified DRY MATS

WHY
WE STICK TO IMPERIAL

ABSOLUTE UNIFORMITY

I HAVE been asked a number of times why my company sticks to Imperial Type Metal. My answer is, "Because of its absolute uniformity." I am absolutely certain that if I order an additional supply of metal, whether it be in January or June or again in September, all the shipments will be absolutely uniform in quality. That means a lot in our plant.

The above is the main reason why we stick to Imperial but there are several other reasons. We like the regular analysis of samples feature. We also know from years of experience with Imperial Metal that our costs will be lower over a period of a year. Then too, you would be surprised at the freedom from metal and machine troubles. My advice to any metal buyer is to give Imperial a trial for a year. That's all you need to do to convince yourself that Imperial Type Metal is the best buy.

Imperial
METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

New Display Intertype

Intertype Corporation is announcing its new Model H Display Machine for keyboard composition of display faces up to and including full-width 30 point.

In general the construction of the new Model H resembles the Model C Intertype with the quick-change chain magazine shift.

The Model H Display Intertype is designed to set larger faces of type from the main keyboard. It carries three extra-wide 72-channel split magazines. The magazines, like the top magazine on the Model G Combination Text-Display Intertype, are about 2 inches wider than former display magazines and hence capable of carrying larger size matrices.

The split magazines in all three positions, top, middle and bottom, are arranged for quick removal at the front of the machine. If desired, the split magazines may be replaced by full-length Intertype wide 72-channel magazines removable at the rear of the machine.

RECENT INTERTYPE IMPROVEMENTS

Mold Cooling System—Highly improved efficiency in mold cooling is said to be accomplished by the new Intertype air cooling system. Satisfactory results have been obtained on tests, due to the manner in which the distribution of air is made, not only on the mold, but on the entire mold wheel and other parts, which naturally absorb heat when casting.

Recessed Mold—To overcome sinking of recessed slugs under dry mat pressures Intertype offers a mold which casts a slug with an angular bottom shelf. It is claimed that overheating of molds is minimized, due to less metal being required to fill the mold aperture. Air trapped in the mold is pocketed quite uniformly toward the base of the angular shelf, well below the characters.

Other mechanical improvements have recently been made by Intertype, as follows:

Metal Pump—The top groove in the pump plunger has been eliminated. This is said to reduce the amount of wear of the pump well and the tendency of the plunger to stick.

Em Scales—All of the em scales at the front of the machine will have the numerals chromium plated to increase visibility and for the operator's convenience.

Fractional Measure Device—For special jobs requiring odd measures the left-hand vise jaw stop can be set at fractions of an em. The setting is made by a convenient indicator dial at the left end of the vise cap and connected to the usual vise jaw attachment.

Slug Lever—The Intertype slug lever is now operated by a cam shoe on the metal pot leg. It is stated that this produces a smoother action of the lever and thereby reduces the tendency to jolt the slugs when being moved over on the galley.

Line Stop—To positively support the leading matrices in a line entering the elevator jaws, the Intertype line stop is now arranged to butt against a shoulder on the left-hand vise jaw. The new stop is automatically brought to the right end of the elevator jaws for each new line.

Knife Block—A knife block arranged to permit varying the setting for each point size is available when desired for Intertype machines.

New Material Repairs and Resurfaces Floors

A recent type of floor material for repairing irregularly worn or broken floors, trucking aisles and platforms is mixed with sand and cement. The resultant mortar is applied in a cold state approximately one-half inch thick.

Where concrete floors are to be patched or resurfaced, ordinary cleaning is sufficient. It is claimed this material will bond to concrete, wood, brick, wood block, asphalt or composition floors and is ready for traffic thirty-six hours after being laid. This type of flooring will not dust. Being resilient it is not noisy.

Original Old Caslon On Monotype

Monotype Caslon Old Style, No. 337 series, which has been completed by the Lanston Monotype Machine Co., 24th at Locust, Philadelphia, is demonstrated in an eight-page brochure, copies of which will be sent to readers of PRINTING EQUIPMENT ENGINEER on request.

Monotype Caslon Old Style No. 337 is regarded by the Lanston Monotype Machine Company as an exact reproduction of a type engraved and marketed by William Caslon during the early part of the Eighteenth Century. Long descenders and many other special characters used in the original Caslon fonts have been provided.

Roman, italics and small caps are combined in the same keyboard arrangement for Monotype machine typesetting in all sizes from 7 to 12-point, inclusive; roman and italics are set separately in 14 and 18-point. Matrices are available in all sizes from 14 to 72-point, inclusive, for casting type to be composed by hand from the cases.

. . Patents

(Continued from page 16)

projections from its surface engaging the web roll whereby when the belt stops these projections will tend to stop the rotation of the running roll.

1,937,453. FOLDING ROLLER SUPPORT. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application March 31, 1928, Serial No. 266,229. Renewed May 22, 1931. 15 Claims. (Cl. 270 — 77.)

1. In a folding couple comprising a pair of folding rolls, the combination of a pair of movable supporting brackets, means for adjusting them, brackets movably carried by the first named brackets and having bearings for the ends of the folding rolls, and frangible means for normally holding the last named brackets in fixed position relative to the adjustable brackets.

1,937,454. PRINTING PLATE LOCK-UP. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application May 20, 1930, Serial No. 453,964. Renewed July 9, 1932. 10 Claims. (Cl. 101 — 378.)

1. In a printing plate locking device, the combination with a cylinder on which the plates are mounted, an end clamp for the plate and yielding means for forcing the end clamp against the plate, of mechanism carried by the cylinder for moving the end clamp away from the plate in opposition to the yielding means, a cam adapted to be located in position to be engaged by the mechanism as the cylinder rotates to operate the mechanism to withdraw the end clamp, and means for manually actuating the mechanism when the cylinder is at rest to move the end clamp toward or from the plate.

1,937,455. PLATE POSITIONING DEVICE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation New York, N. Y., a corporation of Virginia. Application January 22, 1931, Serial No. 510,504. 7 Claims. (Cl. 101 — 378.)

7. The combination with a printing plate cylinder of a member for holding the front straight longitudinal edge of a printing plate thereon, the member having a projection provided with a reduced sharp area for engaging the edge of the printing plate, whereby, if the plate is out of position or lengthens during a series of impressions this sharp area will work into the soft metal of the plate and still hold it without preventing the motion of the edge of the plate, the member having a surface on the opposite side for engaging the rear straight longitudinal edge of the next plate on the cylinder.

1,937,456. PIN MOTION. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 11, 1931, Serial No. 514,933. 3 Claims. (Cl. 101 — 409.)

3. The combination with a folding cylinder, of a lever pivotally mounted, means for swinging the lever as the cylinder rotates, a second lever pivoted to the first lever, pin points on the second lever extending therefrom, and means for oscillating the second lever about its pivot so that when the pin points are about to impale the paper they come to a leading angle.

1,937,493. STEREOTYPING PROCESS AND MECHANISM. Martin W. Brueshaber, Chicago, Ill., assignor to Goss Printing Press Company, a corporation of Illinois. Application May 12, 1928, Serial No. 277,224. 4 Claims. (Cl. 22 — 2.)

1. A stereotype plate mechanism including in combination a plurality of plate casting mechanisms having molten metal reservoirs, means for maintaining a general stereotype metal reserve means for supplying plates thereto as discarded from the press, means for maintaining an individual stereotype metal reserve for the various casting mechanisms, means for supplying the individual reserves from the general reserve, and means for supplying stereotype metal from the various individual reserves to the corresponding plate-casting mechanism.

1,937,510. FOLDING MECHANISM. Herman P. Clauberg, Hasbrouck Heights, N. J., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application October 31, 1931, Serial No. 572,301. 14 Claims. (Cl. 270 — 76.)

1. In a folding mechanism, the combination of a folding cylinder, sheet taking devices carried thereby, means for holding a sheet on the cylinder after it has been released by the sheet taking devices, and means for adjusting the holding means circumferentially of the cylinder

1,937,494. STEREOTYPING PROCESS AND MECHANISM. Martin W. Brueshaber, Chicago, Ill., assignor to Goss Printing Press Company, a corporation of Illinois. Application February 26, 1929, Serial No. 342,836. 9 Claims. (Cl. 22 — 2.)

1. A mechanism for supplying used stereotype plates to a casting machine including in combination means for conveying plates away from a press as they are discarded from the press, means for supporting a reserve of used plates adjacent to the casting mechanism, and means for diverting plates from the conveyor to the reserve as the reserve becomes depleted.

5. Stereotype plate mechanism including in combination a plurality of plate-casting mechanisms having molten metal reservoirs, and conveying means receiving used plates from a press and running past the casting mechanisms for selectively supplying discarded plates from the press to the reservoirs proportionally to the casting of plates by the casting machines.

1,937,576. SHEET FEEDING AND TRIMMING MECHANISM. Edward R. Kast and John H. McElroy, Pearl River, N. Y., assignors to Dexter Folder Company, New York, N. Y., a corporation of New York. Application March 24, 1931, Serial No. 524,960. 68 Claims. (Cl. 164 — 48.)

63. In apparatus of the character described, means for feeding sheets successively at predetermined intervals, driven clutch controlled sheet trimming means to which sheets are fed one after another from the sheet feeding means at intervals, the sheet trimming means

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including a plurality of angularly related cutters for trimming off marginal portions of a sheet longitudinally and transversely thereof, and automatically actuated clutch operating means for the clutch of the sheet trimming means and timing the operation thereof so that the cutters trim the marginal portions off each sheet fed to the sheet trimming means from the sheet feeding means.

1,937,703. METHOD OF PREVENTING EXPANSION AND CONTRACTION OF PRINTING PAPER. Joseph L. Kelly and Rudolph Brenner, St. Louis, and John P. Hoffer, Kirkwood, Mo. No. Drawing. Application May 19, 1930. Serial No. 453,857. 4 Claims. (Cl. 91 — 68.)

1. The herein described method of treating paper in stacks or rolls which comprises introducing a solution into the pores of the paper by applying the solution to the edge portions for the purpose of sealing the pores of the edge portions of the paper, the solution including as elements amounts of beeswax and paraffin oil, the beeswax serving to seal the pores of the paper and the paraffin oil serving to control penetration of the solution into the pores of the paper.

1,937,979. BOOK STITCHING AND FOLDING MACHINE. Wellington George Reynolds, Holyoke, Mass. Application February 4, 1933. Serial No. 655,167. 19 Claims. (Cl. 270 — 37.)

1. The combination in a book-stitching machine, of a table on which the books to be stitched are placed, a reciprocable stitching table on which a book is placed to be stitched, means for intermittently reciprocating the stitching table in one direction, means for stitching the book during the dwell period of the reciprocable table, means for withdrawing the stitched book from the stitching table and automatically reversing or turning the book over, a folding mechanism, and means for operating the folding mechanism to fold the reversed book.

1,938,290. PHOTOMECHANICAL PRINTING (POSITIVE COLLOID RELIEF). Ralph Emerson Hurst and Charles Edmund Meulendyke, Rochester, N. Y. No Drawing. Application May 7, 1932. Serial No. 609,997. 11 Claims. (Cl. 95 - 5.7.)

1. In the art of photo-mechanical printing, the method of producing a metallic sheet supporting a photographic colloid relief including the steps of exposing a basic metallic sheet whose surface is plated with a metallic layer truly inert to and directly supporting a colloid layer containing a sensitive silver salt, developing the silver image, and dissolving out the colloid by a suitable agent under the selective control of the silver image.

1,938,291. PHOTOMECHANICAL PRINTING (NEGATIVE COLLOID RELIEF). Ralph Emerson Hurst and Charles Edmund Meulendyke, Rochester, N. Y. Application May 16, 1932. Serial No. 611,646. 16 Claims. (Cl. 95 — 5.7.)

1. A material for use in the art of photo-mechanical printing including a basic metallic sheet whose surface is plated with a metallic layer truly inert to and directly supporting a colloid layer containing a sensitive silver salt.

1,938,301. PRINTING APPARATUS BLANKET AND METHOD OF MAKING SAME. Louis Smith, Lombard, Ill., and Fred Vogel, Grand Haven, Mich.; said Vogel assignor to said Smith. Application March 20, 1931. Serial No. 524,212. 9 Claims. (Cl. 154 — 54.5.)

1. A blanket for printing apparatus comprising a base consisting of alternate layers of fabric and rubber cemented and pressed together, the upper surface of the base consisting of a fabric layer, a dope coating applied to the upper fabric sneet, the dope coating consisting of a plurality of coats of a gun cotton, castor oil and rape seed oil solution, and a plurality of coatings of varnish on top of the dope coating.

1,938,313. METHOD OF ENGRAVING PRINTING CYLINDERS. Nerses Bechak, North Bergen, N. J. Application January 25, 1933. Serial No. 653,413. 3 Claims. (Cl. 95 — 5.7.)

1. The method of engraving the cylindrical surfaces of metal rollers which consists in covering the cylindrical surface while in a supporting frame with a sensitized acid resisting solution having a shellac base, attaching thereto a flexible transparent positive film of the exact size of the circumference of the roller, the film having a copy of the design thereon securing the abutting edges of the film by means of a transparent strip of adhesive material, printing the design directly on the sensitized cylindrical surface of the roller, developing same in a developing bath having a coloring ingredient therein to remove the coating film unacted upon by the light, and coloring the coating film acted upon by the light, thereby forming a colored resist surface upon the roller, and then etching the exposed parts of the surface by the action of an etching solution.

1,938,325. SHEET RACK FOR PRESSES. Fred S. English and Robert H. Dodds, New London, Conn., assignors to The Babcock Printing Press Manufacturing Company, a corporation of Connecticut. Application October 5, 1926. Serial No. 139,615. 34 Claims. (Cl. 271 — 73.)

1. The combination with a frame, a pile table thereon and a sheet rack for temporarily receiving the sheets above the table, the rack being movable into and out of sheet receiving position over the table and revolvable sheet supporting members on the rack adapted to disengage from under the sheets by a rolling action.

1,938,359. PRINTER'S QUOIN CHASE. Francis X. Smith, Brooklyn, N. Y. Application February 12, 1931. Serial No. 515,328. 2 Claims. (Cl. 101 — 394.)

2. In a printer's quoin chase, a chase frame having a rectangular shaped counter sink in the inner wall thereof and an elongated recess opening within the counter sink, a quoin member comprising an elongated horizontal flange, and a rectangular shaped flat clamping plate integral therewith, the flange being positioned in the recess, while the flat clamping plate is adapted to seat in the counter sink when the quoin member is in fully retracted position, adjustable means coacting with the flange for moving the clamping plate outward of the counter sink and a printer's point scale provided on the upper side of the clamping plate and flange at one end and concealed when the plate is seated in the countersink, the scale being visible as the plate and flange move outwardly and adapted to be read in conjunction with the inner wall of the chase frame.

1,938,422. MEANS FOR PRODUCING PROOFS FROM THE CAST LINES OF TYPE-BAR CASTING MACHINES. Asbjorn Gjaerder, Oslo, Norway. Application May 26, 1932. Serial No. 613,623, and in Norway June 16, 1931. 19 Claims. (Cl. 199 — 47.)

1. In a type-bar casting machine having a delivering channel for cast lines and a galley to receive the delivered lines, the arrangement outside the channel of a platen facing the channel and covered by a proof-receiving paper in such a position as to be contacted by the cast line during the first part of its travel out from the channel, means for yieldingly supporting the platen and to permit same to be forced back by the out-travelling line proper to a retracted position not intervening with the succeeding motion of the line to the galley.

1,938,591. INK ROLLER FOR PRINTING MACHINES. Albert J. Horton, White Plains, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application October 11, 1928. Serial No. 311,846. 7 Claims. (Cl. 91 — 67.8.)

1. In an inking roller for a printing machine having roller sockets, a tubular core having a composition covering, a tubular shaft having ends projecting exteriorly of the core, bearings interposed between the core and the shaft, the outer members of the bearings being supported within the core, and the inner members of the bearings being supported on the shaft, and gudgeons secured to the ends of the shaft outside the bearings and adapted to be secured to the roller sockets.

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By GEO. L. MORRISON*

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In order to obtain the utmost benefit of a non-distribution system, and have the proper amount of metal in storage, it is necessary to have a periodic checkup of type in storage. If there is no checkup, metal accumulates in faces that are not used much, and there is an inadequate supply of other faces.

The following system is suggested as one that is not complicated, does not take up much time, and balances the work and the storage much better:

A daily form is made up, containing a list of all the faces, leads, rules and slugs. The caster man merely checks what he worked on that day, at the end of the shift. If a more accurate check-up is desired, the number of hours worked on each item can be included, although this is not absolutely necessary.

The foreman has a graph made up as follows: A duplicate list of all matrices, leads, rules and slugs are listed vertically on one side of the sheet. The graph is ruled for about 90 spaces. As each day's slips are turned in, they are checked on the graph.

At the end of 90 days a very good picture of what has been done is shown in a vivid manner. It is very evident what faces and what sizes are used the most, and what faces and sizes are very seldom used. With this information, it is an easy matter to adjust your storage to actual needs.

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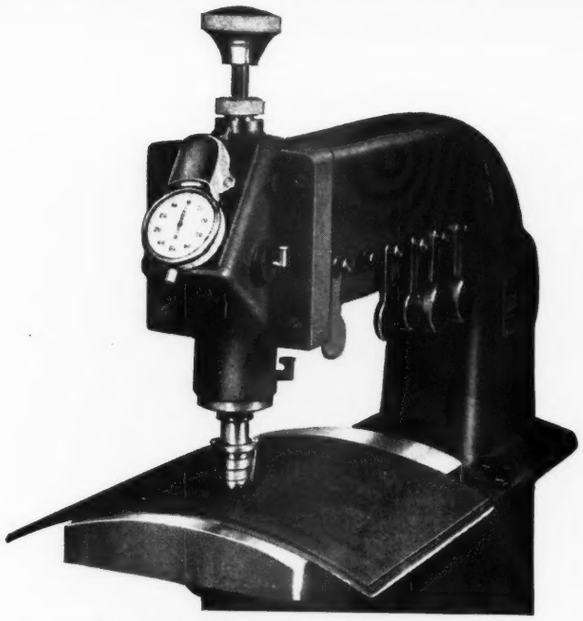

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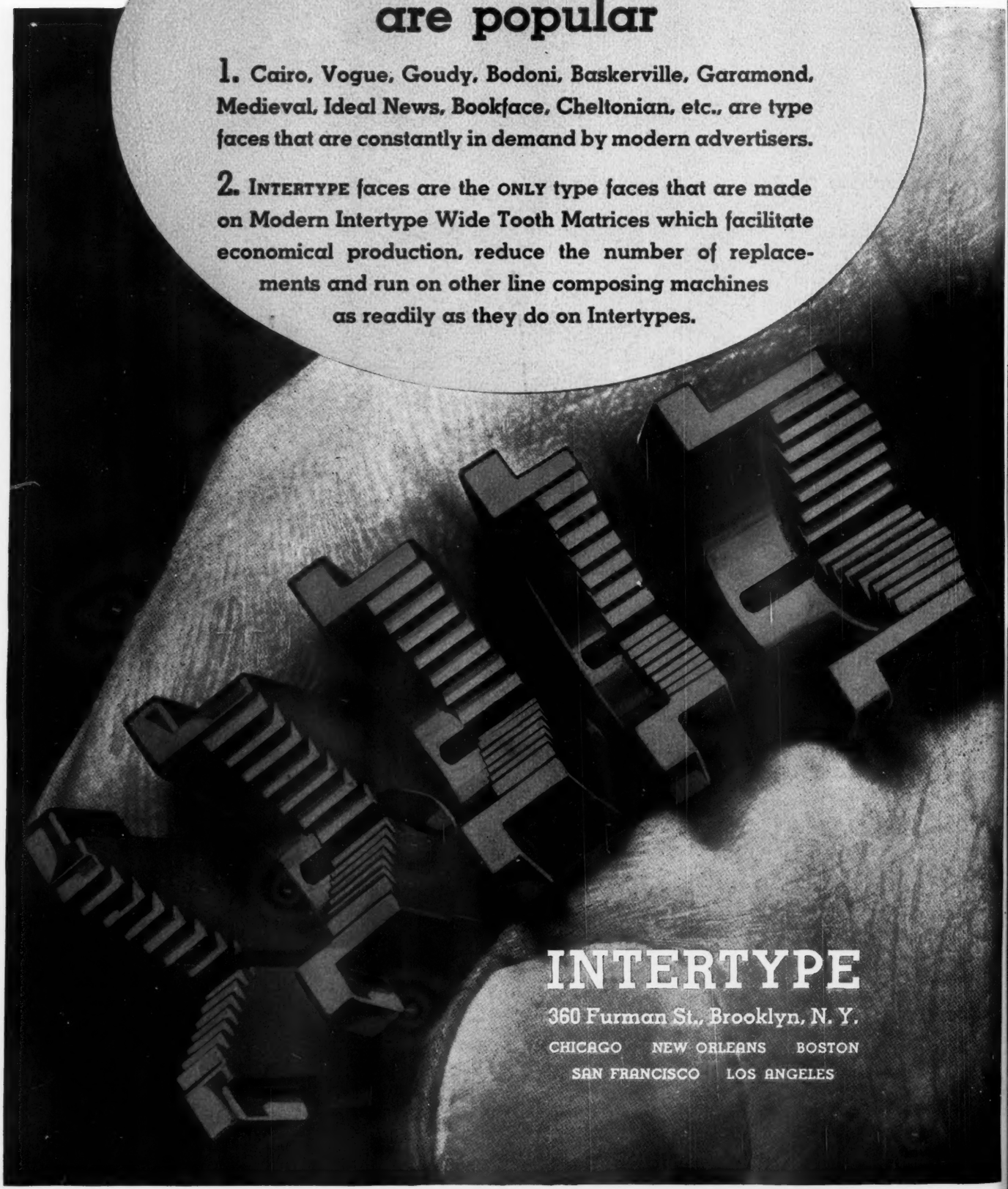

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